FINANCIAL TIMES

MONDAY 28 NOVEMBER 2022 INTERNATIONAL NEWSPAPER OF THE YEAR EUROPE

Japan's newest fighter jet changes course
BIG READ, PAGE 19

It's time for Britain to stop doing stupid stuff
MARTIN WOLF, PAGE 21

China rocked by protests as anger spreads over zero-Covid lockdowns

● Rising wave of discontent ● Shanghai residents clash with police ● Xi's social controls put to test

THOMAS HALE — SHANGHAI
TOM MITCHELL — SINGAPORE

Shanghai protests escalated yesterday as police struggled to disperse large crowds which gathered in the city as part of a nationwide wave of discontent about China's zero-Covid policies.

Protesters clashed with police and shouted anti-government slogans in a second day of disorder, following street gatherings on Saturday evening.

Some complained about a lack of freedom and what they said was the unscientific nature of China's Covid policy, which aims to eliminate the virus through mass testing, quarantine and lockdowns.

The policy is under immense pressure from rising cases, popular discontent and a slowing economy. Authorities yesterday reported the highest daily infections on record for the fourth consecutive day, with the tally close to 40,000.

> **Defiance in Shanghai**
>
> As dusk fell on Wulumuqi Road, one of the most striking scenes of civil disobedience in mainland China in recent decades was under way **Page 4**

The backlash poses one of the most overt challenges to the Chinese Communist party's authority in decades. Some Shanghai protesters held up blank pieces of paper to symbolise censorship — a gesture also used by pro-democracy activists in Hong Kong — and pinned them to trees before police ripped them down. Others carried white flowers, a symbol of mourning.

On Saturday some people had openly called for the party and President Xi Jinping to "step down".

Students across China held rallies over the weekend, including at Tsinghua university in Beijing. Residents in the capital confronted officials over the closure of their housing compounds.

Protest footage was shared widely on social media but was censored by the authorities. Images included graffiti slogans at Peking University such as "We don't want PCR tests, we want food".

A woman in Shanghai holds up a blank sheet of paper as a symbol of censorship — Hector Retamal/AFP via Getty Images

The protests have been energised by a sense of anger over the deaths of 10 people during a fire in the locked-down city of Urumqi on Thursday. The tragedy, which prompted vigils around the country, has been widely blamed on anti-Covid restrictions; authorities deny this.

One person at the Shanghai protests who asked to remain anonymous said: "For the past three years, people have accumulated this kind of anger."

A student said: "I know what I'm doing is very dangerous, but it's my duty." Another said the event began as a peaceful commemoration of the deaths of the people in the Urumqi fire, but got "out of control".

China has experienced much larger demonstrations in recent years, in particular the mass pro-democracy protests in Hong Kong in 2019 that brought millions of people on to the territory's streets. But the emerging movement against Xi's signature policy is unprecedented since the 1989 Tiananmen Square protests in terms of its national scope and direct challenge to party authority.

Sheena Chestnut Greitens, a China expert at the American Enterprise Institute, said the widespread unrest could "become a serious test of the tools of social control developed under Xi".

Steve Tsang, head of the Soas China Institute at the University of London, said the anti-Xi slogans marked "a new point" in the protests.

"I think [Xi] will turn to repression of some form to stamp out further protests against the policy and his leadership," he said. "Abandoning zero-Covid now would be too embarrassing and a sign of weakness."

There are coronavirus outbreaks in many large cities, including Guangzhou and Beijing. Previous outbreaks have been successfully suppressed, but they have been typically centred in one city or region.

State media outlets said the government would continue to put "people and lives first" and "would not waver" from its approach.

Additional reporting by Cheng Leng, Edward White and Joe Leahy

Briefing

▸ Brussels races to seal deal on price cap for Russian oil
The EU is struggling to reach agreement over the level of a ceiling and whether to link it to wider sanctions, as a December 5 deadline looms.— PAGE 2

▸ Backing for brain robots
The team behind Apple's Face ID has secured $43.2mn in fresh funding as it develops tiny robots that deliver drugs into the brain to target tough diseases.— PAGE 6

▸ EY bid to ease split debate
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▸ Taiwan opposition boost
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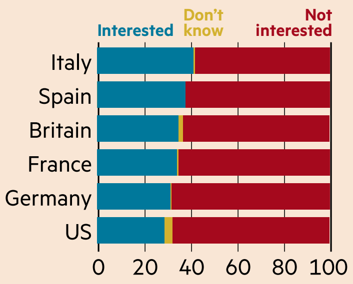
▸ Aung San Suu Kyi isolated
A former adviser has said that Myanmar's ousted leader is being held in a whitewashed concrete hut without window blinds at a prison camp in the jungle.— PAGE 4

▸ Europe eyes vaping levy
The EU is to propose a bloc-wide vaping levy as part of a tobacco industry taxation shake-up that would raise duties in states with low cigarette taxes.— PAGE 2

Datawatch

Opposing sides
Attitudes to football (%)



Source: YouGov 2022

Attitudes towards the beautiful game look polarised, with little centre ground. More than 60 per cent of respondents in Spain, the UK, France, Germany and the US have little or no interest. Italy leads the league but only scores 42 per cent

Private equity adds a new layer of securitisation

Analysis ▸ PAGE 8

Falling input costs and shipping rates ease global inflationary pressures

VALENTINA ROMEI — LONDON

Key data indicators suggest that this year's rampant global inflation has peaked and the pace of headline price growth is set to slow in the coming months.

Factory gate and commodity prices, shipping rates and inflation expectations have all begun to subside from their recent record levels. These data series are widely watched by economists and policymakers as they provide an early indication of the trends that will shape the headline inflation calculation.

According to economists, the figures suggest that price pressures on global supply chains are easing, making it likely that headline inflation will fall from the historically high rates that hit household finances and business activity in recent months. That would be welcome news for leading central banks, which have been raising interest rates rapidly in a co-ordinated effort to tame inflation, risking plunging major economies into recession by doing so.

"Inflation is likely at its apex," said Mark Zandi, chief economist at Moody's Analytics. The easing of price pressures and supply delivery bottlenecks "presage the coming moderation in consumer prices", he said.

Global inflation hit a record 12.1 per cent in October, according to Moody's estimates. That will be the "high water mark" for consumer prices, Zandi said.

Jennifer McKeown, head of global economics at Capital Economics, expects headline inflation to begin to fall next year because of lower prices for most commodities as demand weakens. High energy prices this year will also flatten out in 2023, she said.

"Food and energy effects together will knock about 3 percentage points off headline consumer price inflation in the advanced economies on average over the next six months," she said.

However, continued high energy costs could slow the decline. Susannah Streeter, senior investment and markets analyst at Hargreaves Lansdown, said that "oil [is] set to stay highly sensitive to supply constraints, and the looming EU ban on Russian crude" would continue to fuel headline inflation in the UK and the eurozone.

Inflation is set to remain above central banks' long-term targets, economists said.

"Don't expect inflation to drop down to 2 per cent very quickly," said Katharine Neiss, chief European economist for PGIM Fixed Income.

EU oil price cap page 2

Austria	€4.30	Morocco	Dh50
Bahrain	Din1.8	Netherlands	€4.30
Belgium	€4.30	Norway	NKr45
Croatia	Kn32/€4.25	Oman	OR1.60
Cyprus	€4.00	Pakistan	Rupee350
Czech Rep	Kc120	Poland	Zl 24
Denmark	DKr43	Portugal	€4.00
Egypt	E£59	Russia	€5.00
France	€4.30	Serbia	NewD530
Germany	€4.30	Slovenia	€4.00
Greece	€4.00	Spain	€4.00
Hungary	Ft1350	Switzerland	SFr6.50
India	Rup220	Tunisia	Din7.50
Italy	€4.00	Turkey	TL50
Luxembourg	€4.30	UAE	Dh23
Malta	€4.00		

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World Markets

STOCK MARKETS

	Nov 25	Prev	%chg
S&P 500	4029.90	4003.58	0.66
Nasdaq Composite	11243.23	11285.32	-0.37
Dow Jones Ind	34370.06	34194.06	0.51
FTSEurofirst 300	1739.73	1738.57	0.07
Euro Stoxx 50	3961.40	3961.99	-0.01
FTSE 100	7486.67	7466.60	0.27
FTSE All-Share	4112.31	4102.66	0.24
CAC 40	6712.48	6707.32	0.08
Xetra Dax	14541.38	14539.56	0.01
Nikkei	28283.03	28383.09	-0.35
Hang Seng	17573.58	17660.90	-0.49
MSCI World $	2706.01	2697.39	0.32
MSCI EM $	945.57	932.30	1.42
MSCI ACWI $	625.96	623.24	0.44
FT Wilshire 2500	5229.15	5198.96	0.58
FT Wilshire 5000	40833.88	40601.22	0.57

CURRENCIES

	Nov 25	Nov 18		Nov 25	Nov 18
$/€	1.041	1.036	€/$	0.961	0.965
$/£	1.209	1.193	£/$	0.827	0.838
£/€	0.861	0.869	€/£	1.162	1.151
¥/$	139.250	139.885	¥/€	144.910	144.942
¥/£	168.408	166.842	£ index	79.760	78.069
SFr/€	0.985	0.985	SFr/£	1.145	1.134

CRYPTO

	Nov 25	Prev	%chg
Bitcoin ($)	16460.87	16590.48	-0.78
Ethereum	1184.34	1202.80	-1.53

COMMODITIES

	Nov 25	Nov 18	%Week
Oil WTI $	77.69	78.48	-1.01
Oil Brent $	84.91	86.48	-1.82
Gold $	1755.40	1758.60	-0.18

GOVERNMENT BONDS

Yield (%)	Nov 25	Nov 18	Chg
US 2 yr	4.50	4.50	0.00
US 10 yr	3.72	3.70	0.02
US 30 yr	3.77	3.73	0.04
UK 2 yr	3.32	3.23	0.09
UK 10 yr	3.12	3.03	0.09
UK 30 yr	3.33	3.27	0.06
JPN 2 yr	-0.02	-0.03	0.01
JPN 10 yr	0.25	0.24	0.01
JPN 30 yr	1.48	1.44	0.04
GER 2 yr	2.18	2.09	0.09
GER 10 yr	1.97	1.85	0.13
GER 30 yr	1.87	1.71	0.16

Prices are latest for edition
Data provided by Morningstar

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INTERNATIONAL

Energy

EU puts Russia oil price cap in the fast lane

Brussels struggles for unity on measure to cut Putin's war funds

SAM FLEMING — BRUSSELS
DAVID SHEPPARD — LONDON

Brussels is racing to finalise the proposed price ceiling on Russian oil shipments in the coming days after EU governments clashed over the level of the cap and whether to link it to a wider round of sanctions.

The EU was struggling to settle its differences over the weekend as it attempted to stay ahead of a December 5 deadline, when a previously agreed EU embargo on seaborne Russian oil kicks in. Talks have stalled in recent days as Poland has led a push for a far lower price ceiling than the European Commission advocates.

Brussels has been working alongside the G7 nations to implement the proposed price ceiling on seaborne Russian oil with the goal of allowing the flow to continue while pushing down Moscow's ability to fund its war in Ukraine.

The initiative would ban insurance and other services essential to the seaborne shipment of Russian crude unless sold at or below a G7-agreed price level.

But while EU member states are willing to sign up to the measure, they differ on the level of that cap. "This is a moment when we need to send clear signals of unity to [Russia president] Vladimir Putin," said one EU diplomat.

The commission is pushing for a maximum price level of $65 a barrel, but hawkish member states led by Poland say this would be ineffective because it is too close to the price Russia already gets on the markets, meaning the sanction would not punish the Kremlin.

Brent crude, the international benchmark, is trading at about $84 a barrel, but Russia's oil has fallen to a steep discount as European buyers turn away, with its main Urals grade trading at about $66 a barrel. Warsaw has been demanding a much lower price, arguing it is necessary to ensure Putin's oil revenues are curtailed.

> 'This is a moment when we need to send clear signals of unity to Vladimir Putin'
>
> EU diplomat

Warsaw also wanted to include the oil price cap in a wider ninth package of EU sanctions on Russia, the official said, but the commission is concerned that this could further snarl up negotiations. Poland and other states are also haggling over a review mechanism for the price level.

Other EU states, including those with big shipping industries such as Greece, Malta and Cyprus, want to ensure the price is sufficiently high to keep trade in Russian oil flowing — a position likely to be supported by the US.

The US Treasury has led the push to introduce the G7 price cap partly due to concerns EU sanctions could trigger an inflationary surge in oil prices if too much Russian oil cannot make it to market. If the price cap level is set too low, analysts argue, Russia could lose the incentive to keep producing, preferring instead to curtail output to drive up global prices to compensate.

Bringing the oil price cap into force will require action not only by the G7 allies but also unanimous agreement among the 27 EU member states, because it means amending the already agreed EU embargo on Russian seaborne oil that starts on December 5.

Next Sunday, Russia is also due to meet members of the Opec+ group such as Saudi Arabia to discuss production policy, setting up a critical week for the oil market. The commission declined to comment.

Public health

Brussels plans to tax vaping and double low levels of tobacco duty

OLIVER BARNES AND
MARY MCDOUGALL — LONDON
ANDY BOUNDS — BRUSSELS

The EU is to propose a vaping levy as part of a shake-up of taxation on the tobacco industry that would also double excise duties in member states with low cigarette taxes, claims a draft European Commission document.

The changes to legislation, part of a push by Brussels to cut smoking rates, will increase the EU's minimum excise duty on cigarettes from €1.80 to €3.60 per pack of 20, which would raise prices in eastern European nations where packs can sell for under €3.

The update to the 2011 EU tobacco taxation directive will also bring the taxation of novel smoking products, such as vapes and heated tobacco, into line with cigarettes, as policymakers worldwide take an increasingly dim view of the new products' popularity among young people.

Stronger vaping products would have an excise duty of at least 40 per cent applied to them, and lower-strength vapes 20 per cent. Heated tobacco products will also be subject to a 55 per cent duty, or a tax rate of €91 per 1,000 items sold.

Alberto Alemanno, professor of EU law at HEC Paris business school, said the absence of an EU-wide excise framework for vapes and heated tobacco had been "weakening tobacco control efforts" across the bloc.

Excise duties on cigarettes would also increase in countries such as Austria and Luxembourg where prices are low relative to income. The tax rise on cigarettes is expected to generate an extra €9.3bn for EU member states.

The changes aim to speed up the EU's push for a "tobacco-free generation" by 2040. As part of the EU's Beating Cancer Plan, health officials want to drive tobacco use among EU citizens from the current level of about 25 per cent down to 20 per cent in 2025, and below 5 per cent by 2040.

The commission this month imposed a ban on flavoured heated tobacco products to curtail a surge in demand among younger consumers. In the US, regulators at the Food and Drug Administration have moved to ban popular vaping products, such as Juul.

Rob Branston, senior lecturer in business economics and a member of the University of Bath's Tobacco Control Research Group, said the tax regime update was "long overdue" to increase prices in countries where cigarettes were "too cheap" and to catch up with inflation.

"This will save lives," he said. "Tax-induced price increases are . . . one of the most effective tools for reducing tobacco use, so significant increases in minimum tax rates . . . are crucial to attaining the desired reductions in cancer and other illnesses."

But Peter van der Mark, secretary-general of the European Smoking Tobacco Association, an industry body, warned that "if you have a sudden very steep increase, you can create a market for illicit trade".

The proposal will have to be agreed by all EU member states before it is enshrined in law. The commission did not reply to a request for comment.

Economy. Growth woes

Stagnation deemed worse than 1980s 'lost decade'

Latin America productivity hit by low investment and poor education, says top UN official

MICHAEL STOTT — SANTIAGO

Weak investment, low productivity and inadequate education have condemned Latin America to a period of economic failure even worse than the "lost decade" of the 1980s, according to the top UN economic official in the region.

José Manuel Salazar-Xirinachs, new head of the UN Economic Commission on Latin America and the Caribbean (ECLAC), said the stagnation of the past decade contrasted not only with the 5.9 per cent annual growth of the 1970s but also the 2 per cent achieved in the 1980s, a turbulent decade for Latin America characterised by a wave of debt crises.

"This is terrible, this really ought to be a huge red light," he said of the descent into stagnation, with average annual economic growth in the decade to 2023 set to be just 0.8 per cent. "The challenge is how to return to this line of 5.9 per cent a year," he said.

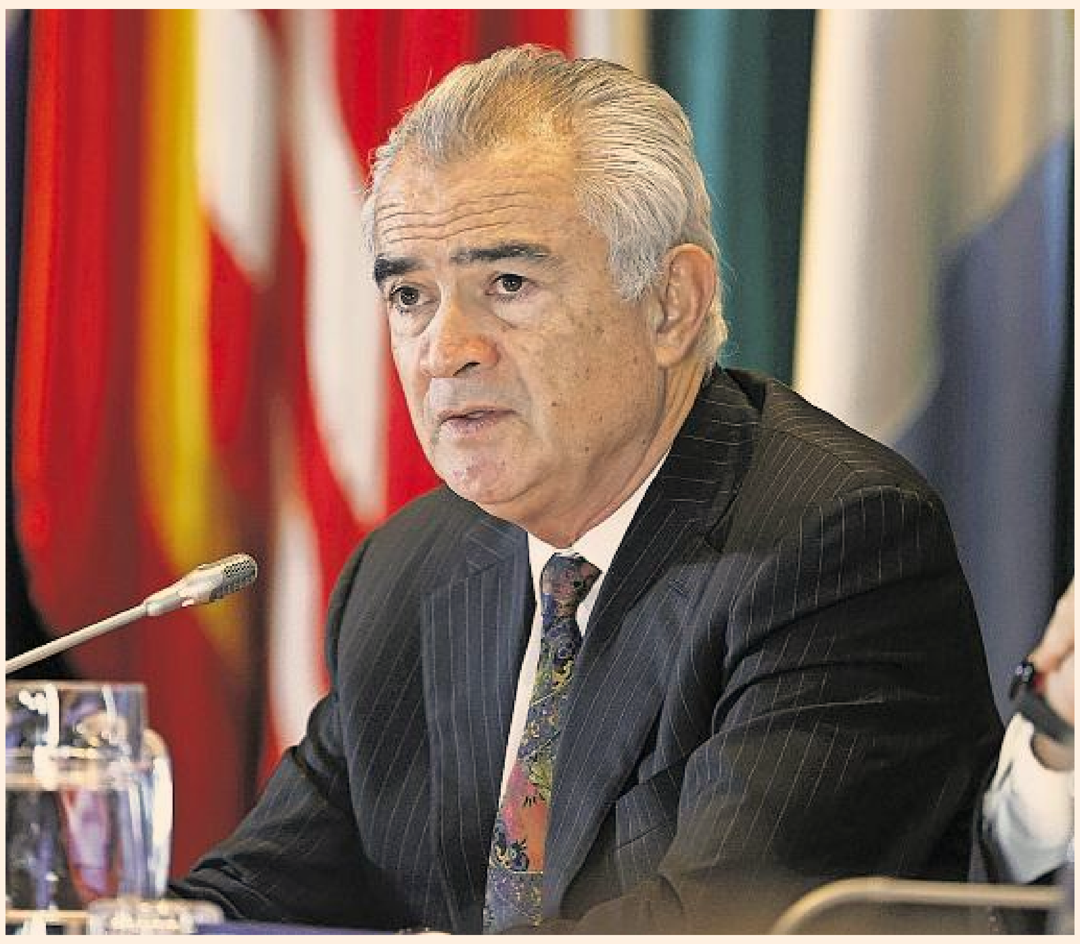
Salazar-Xirinachs, speaking to the Financial Times from ECLAC's base in Chile, also called on the region's three newest leftwing leaders to prioritise growth over a desire to share the spoils of wealth. Brazil, Colombia and Chile have all elected leftwing presidents in the past year.

"In general the progressives in Latin America have been preoccupied with distribution but not with wealth creation," said the Costa Rican economist. "We need both and they go hand in hand."

Latin America has grown more slowly than almost any other part of the world over the past decade. The region was hard hit by the pandemic, suffering more than a quarter of all recorded coronavirus deaths, despite having only 8.4 per cent of the world's population.

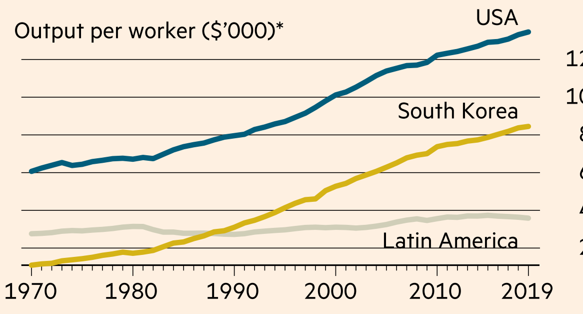
Salazar-Xirinachs said the economic underperformance was due to a lack of investment and poor education, both of which had hurt productivity. "We're investing too little in infrastructure and we have an education system which is not delivering the talent we need in terms of numbers and quality," he said.

Yet he also stressed that spending more money on education was not necessarily the answer, noting how his native Costa Rica had boosted education spending substantially but had not seen the expected results. "We're . . . at about 7 per cent of GDP but the Pisa scores are very bad," he said, referring to the OECD's benchmark for educational attainment.



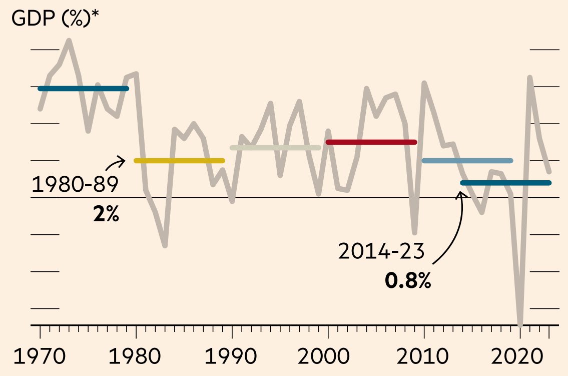
Regional plea: José Manuel Salazar-Xirinach has called on the three newest leftwing leaders, in Brazil, Chile and Colombia, to prioritise growth over a desire to share the spoils of wealth
Elvis Gonzalez/EPA-EFE

Productivity in Latin America has flatlined since the 1970s



*Dollar at 2019 levels
Source: ECLAC

Latin America is seeing worse average annual growth than in the 1980s



*Figures for 2022 and 2023 are estimates
Source: ECLAC

"There are countries [spending] 4.5 per cent with much better education systems. The problem is that, in the education industry, quality has been ignored."

ECLAC, often known by its Spanish acronym Cepal, has long been wedded to "dependency theory" — the idea that raw material producers are trapped in an unfair global economic system that prevents them from moving up the value chain — and has in the past advocated state-led industrialisation.

But Salazar-Xirinachs, who previously worked at the International Labour Organization and the Organization of American States, said he was keen for the region to escape economic stagnation by adopting what he called "productive development".

This meant harnessing public and private money to develop high value-added goods and tech-enabled services in sectors such as medical devices, electric vehicles, green energy and pharmaceuticals. This was best achieved by creating "clusters" close to universities and research institutes.

Salazar-Xirinachs said Spain's Basque region had successfully used the model but that it had been used only sporadically in Latin America, for example in the Bogotá region of Colombia or in the automotive sector in Mexico. "It needs to become a more coherent policy . . . and to leave to one side those debates about whether it's the state or the market. What's good about the [cluster] focus is that it's a very pragmatic way to collaborate."

William Maloney, chief economist for Latin America and the Caribbean at the World Bank, agreed that low investment and poor productivity were at the heart of the economic problems.

"The region is looking to crack this nut of low job and productivity growth and there's a lot of common ground to work on with Cepal," he said. Other priorities included improving the efficiency of government spending, making tax systems more progressive and increasing the supply of trained, mid-level technicians, engineers and managers, Maloney added.

> 'We need both [wealth distribution and wealth creation] and they go hand in hand'

Latin American countries trade less with each other than any other region, with their economies geared instead to export raw materials to the US, Europe and China.

Salazar-Xirinachs wants to see a greater focus on practical measures to facilitate inter-region trade, including trade in services, rather than the grand political declarations that have characterised past efforts at integration.

Trade negotiations have yielded sophisticated agreements with the US or Europe, but not good regional deals.

"In the past, regional integration was seen as an alternative to insertion in the world economy," he said. "Now it's clear that it's more complementary. For Latin America to successfully become part of global value chains, it needs regional chains of production."

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Ronaldo and Suárez find time waits for no centre forward

WORLD CUP
Simon Kuper

How do you tell your national figurehead it's time to go? Uruguay face this issue more starkly than Portugal.

The countries' clash in today's group game is also a reunion of ageing centre forwards: Portugal's 37-year-old Cristiano Ronaldo and Uruguay's Luis Suárez, two years younger but looking older.

Age can help a footballer, but both men are so deep into their decline as to have become clubless: Suárez's sentimental homecoming with Nacional in the Uruguayan league ended this month, while Manchester United terminated Ronaldo's expensive contract last Tuesday for his blaming-everyone-but-himself interview with Piers Morgan.

United's executives were probably delighted Ronaldo gave them an out: despite his goalscorer-only role, he had scored just one league goal this season. Yet here both legends are at football's biggest tournament, because World Cups are about more than football. Suárez's spot on Uruguay's teamsheet is hard to justify. His hardworking side cannot afford to carry a stationary passenger. In the hour he was allotted in Uruguay's opener against South Korea, he had just 13 touches and no shots.

A team's hierarchy generally ends up aligned with individual performance, but the process isn't instantaneous, and so Suárez enjoys a privileged position based on his glorious past (the goals, not the biting of opponents). He has higher status than his manager — himself jobless for 11 months between leaving David Beckham's Inter Miami and taking over Uruguay last December — while Uruguay's younger players grew up worshipping "El Pistolero". Nobody seems able to tell him it's over.

An athlete who remains at the top as long as Suárez or Ronaldo is fuelled by egotistical ambition, which is productive until it decouples from his performance. Once an ageing legend's supporters are reduced to arguing that he's needed for his "dressing-room presence", his cause is lost: if that's his value, then make him an assistant coach.

There are stronger arguments for Ronaldo. The dubious penalty he won and converted in Portugal's opening 3-2 win against Ghana was his record 118th international goal. He's now the first man to score at five World Cups, and both his country's oldest and youngest ever scorer in the competition.

Portugal coach Fernando Santos was right to say: "In 50 years' time we will continue to speak about him." Like Paul McCartney, Ronaldo is an epoch-transcending genius who gets mistaken for tabloid fodder.

Portugal, unlike Uruguay, do frequently bring the ball into the penalty area, Ronaldo's last remaining operating area. Possibly nobody on earth is better at converting from there, or heading in setpieces. Still, his co-ordination is inevitably declining. More broadly, Ronaldo damages as well as benefits Portugal. Since he doesn't defend — an almost unique privilege nowadays — opponents construct attacks through his zone. This is partly why Manchester United judged him obsolete. His central presence, constantly calling for crosses, looking devastated when teammates don't deliver, forces most Portuguese attacks into a predictable pattern. That's a waste.

Luis Suárez: enjoys a privileged position based on his glorious past

A new generation of Ruben Dias, João Cancelo, Bernardo Silva, Bruno Fernandes and João Félix is better than the team with which Ronaldo won Euro 2016. They could play more fluently without him. A rational Portugal would keep him for occasional use. But his ego isn't made for a subsidiary role.

The considerations transcend football. Like about 26 of the 32 teams, Portugal aren't here primarily to lift the trophy but to incarnate the nation in a collective emotional experience. That requires the national figurehead — and Ronaldo's sole rival for that role is his Madeiran mother.

The Portuguese hope he will provide some last memories for the national album, then go gracefully. But one suspects he intends to run again in 2026, aged 41. If Suárez is there too, let it be as a dressing-room presence only.

See Lex

Brussels seeks to reduce fallout from Biden's green subsidies

Bloc fears landmark US legislation will damage Europe's industrial base

SAM FLEMING AND ANDY BOUNDS
BRUSSELS

Joe Biden's arrival in the White House heralded a period of stability in US-EU trade relations following the turmoil of Donald Trump's presidency. Now that detente is at serious risk of breaking down.

At issue is a landmark piece of US legislation called the Inflation Reduction Act, which includes $369bn of subsidies for green technologies aimed at luring investment to the US. Brussels says the regime is damaging to the EU's industrial base and breaches World Trade Organization rules.

The two sides have set up a joint task force to resolve their differences but officials are downbeat about the prospect of significant changes. Absent a rethink in Washington, what can the EU do to mitigate the damage?

Biden signed the IRA into law in August, hailing it as the most "aggressive action" the country had taken to confront the climate crisis. While the EU has welcomed the efforts to curb carbon emissions, it has complained bitterly about measures it says would give US-based enterprises an unfair advantage.

The incentives "discriminate against EU automotive, renewables, battery and energy-intensive industries", said EU trade commissioner Valdis Dombrovskis.

For example, a $7,500 subsidy for purchases of electric vehicles would now be restricted to those substantially made with parts from North America and assembled there.

> '[Incentives] discriminate against EU automotive, renewables, battery and energy-intensive industries'

The European Commission has argued that five measures in the legislation create tax credits and subsidies with "clearly discriminatory domestic content requirements", claiming that this breaches WTO rules. The EU also wants to get the same preferential terms the US has extended to Canada and Mexico when it comes to electric vehicles.

"We fear . . . we'll see a negative impact on trade and investment in the EU," Xiana Mendéz, Spain's state secretary for trade, told the Financial Times. "We also fear that the access to the US market will be negatively impacted for our products."

Not so far. Congress passed the act by the narrowest of margins, with US vice-president Kamala Harris using her casting Senate vote. There is little prospect of significant amendments. "There's no appetite to take it back [to Congress]," said one EU diplomat. "Biden's very pleased with this legislation."

The Biden administration now has to draft rules to implement the measures but those with knowledge of the talks say it has not outlined specific changes it could make before the act takes effect on January 1.

Nor have the two sides discussed all the problem areas, with talks focusing on the electric vehicles issues. One hope for the EU is a possible loophole in the subsidy provisions: commercial vehicles do not have to be assembled in the US to qualify for a $7,500 consumer tax credit.

EU trade ministers meeting in Brussels on Friday said they wanted concrete solutions by December 5, when the US and EU will hold the next session of their regular trade and technology council.

The commission has signalled that it could take the issue to the WTO if the talks fail to bear fruit. This would open the door wider to the EU taking retaliatory action such as tariffs against the US, said Sam Lowe, a partner at consultancy Flint Global.

But the process would take at least a year. And many EU members are reluctant to open a trade war over the issue, given the recent progress that Europe and the US have made in other areas, pausing earlier disputes over aircraft subsidies and the Trump-era steel and aluminium tariffs.

The EU wants to maintain transatlantic unity in the face of the Russian invasion of Ukraine and the huge financial and military support that the Biden administration has extended to Kyiv. Allowing anger about the IRA to boil over into a significant US-EU rift would carry a price.

"I don't think the EU has a magic weapon. That's why they have to talk," said Lourdes Catrain, a trade lawyer at Hogan Lovells in Brussels. The US subsidies were "an incredible amount of money", one EU diplomat said. But that does not mean the bloc is unable to bring its own resources to bear.

The union is already disbursing its €800bn NextGenerationEU programme, which requires every member state to dedicate at least 37 per cent of national recovery spending on climate-related investments and reforms.

The EU is also devoting cash to green projects from its regional aid scheme, as well as backing initiatives in areas such as hydrogen and batteries. And it is seeking to boost the firepower of its RepowerEU energy plan, which aims to wean the EU off Russian fossil fuels and improve energy infrastructure.

Some EU politicians want to go further. French president Emmanuel Macron, who is visiting Washington this week, has mooted a "buy European act" that would channel support to domestic companies.

Robert Habeck, German economy minister, has called for a "strong European response" that could include subsidies. "We have to give our companies the ability to hold their own against global competition, especially when it comes to leadership in technology," he told Handelsblatt.

The EU is constrained on two key fronts. First, it is reluctant to replicate the local content provisions in the US legislation as lawyers say this breaches WTO rules. Doing so could leave the EU open to challenges from other trade partners, who are also aggrieved about the US legislation.

What is more, the resources available for subsidies at the EU level are extremely limited. And at member state level public finances remain under strain following the pandemic, with public debt hovering above 93 per cent of gross domestic product this year in the eurozone.

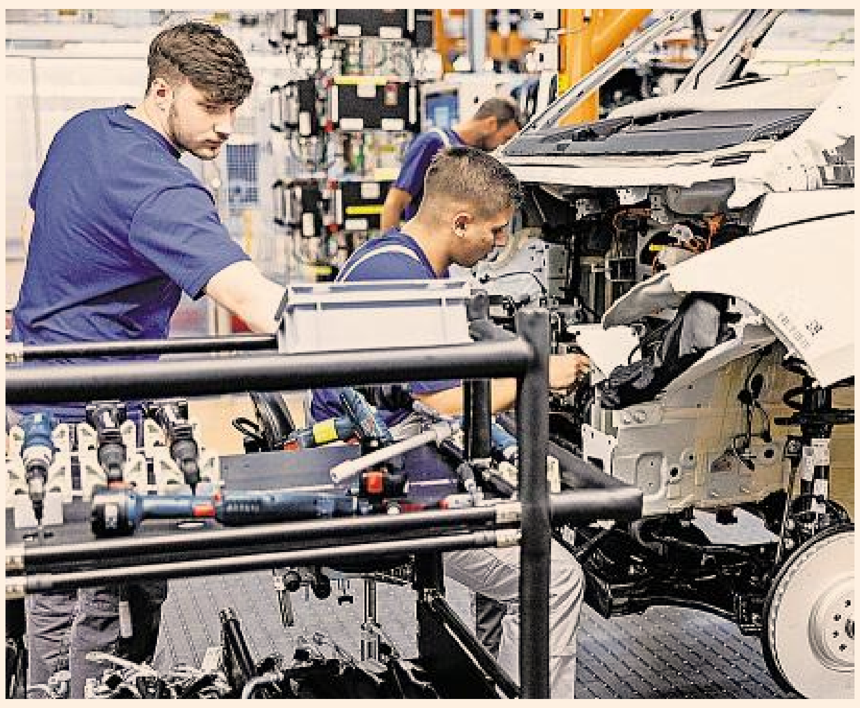
Some member states, including Germany, have the public money to offer more subsidies, but the risk is that this further imbalances the single market. The EU's state aid rules, which aim to preserve a level playing field, have already been relaxed under a series of temporary measures aimed at responding to the Covid-19 crisis and more recently the energy price surge.

Additional reporting by Guy Chazan

Business Life back page

> 'I don't think the EU has a magic weapon. That's why they have to talk'

Joe Biden and his wife Jill, flanked by vice-president Kamala Harris and her husband Doug Emhoff, celebrate the passage of the Inflation Reduction Act Kevin Lamarque/ Reuters



The EU electric vehicle sector is viewed as one of those at risk — Axel Heimken/AFP/Getty

East Asia

Taiwan's struggling KMT buoyed by polls

Scion of dictator elected mayor of Taipei and president quits party post

KATHRIN HILLE — TAIPEI

The great-grandson of the late dictator Chiang Kai-shek has been elected mayor of Taipei, giving a much-needed boost to the Kuomintang, Taiwan's struggling opposition party.

Wayne Chiang's victory in the capital reassured the KMT that it still has traction if it puts forward popular candidates who can distract from the party's lack of a clear and credible policy stance on China. Saturday's polls, where voters picked government heads and lawmakers on three local levels of government, dealt the ruling Democratic Progressive party its worst local election defeat in decades, as it retained control of only five of the country's 22 municipalities, cities and counties.

President Tsai Ing-wen resigned as DPP chair, acknowledging that the party had failed to inspire voters and needed to "thoroughly review and reflect".

However, analysts cautioned against reading the results as a broader shift in public sentiment that could push the DPP — vilified by China as the main obstacle to unification — out of power in presidential and legislative elections in January 2024.

"The election results will give the KMT a lot of confidence, but if they believe this means that their positions are now more popular with the electorate than the other party's, they are probably mistaken," said Nathan Batto, a research fellow at Academia Sinica in Taipei.

The KMT's support rating dropped to a historic low of 14 per cent in July in a poll from National Chengchi University, compared with 31 per cent for the DPP's, while Tsai's support is holding at about 45 per cent, strong for a president towards the end of their second term.

The fact that a majority of Taiwanese do not identify as Chinese and no more than 10 per cent would consider unification with China are also at odds with the KMT's Chinese nationalist tradition. National identity and the threat from China normally drive national elections in Taiwan. In Taipei, Chiang defeated the DPP's Chen Shih-chung, a former health minister who led the central government's pandemic control effort, and Huang Shan-shan, deputy to the current mayor Ko Wen-je of the smaller Taiwan People's party.

Although Chiang Kai-shek ruled Taiwan as a dictator for decades after losing the Chinese civil war and fleeing to the island, his complicated legacy has not hindered his great-grandson's political career — the two-term lawmaker has a strong female following and is often treated as a celebrity.

"Symbolically, this is a very important win for the KMT," said Lev Nachman, a political scientist at National Chengchi University in Taipei. He added that while Wayne Chiang's family pedigree makes him unelectable for Taiwanese nationalists and those whose families suffered under Chiang Kai-shek's dictatorship, it deeply resonates with much of the KMT base, who continue to identify with the Republic of China, the state that was toppled in the 1949 Communist revolution but whose constitution Taiwan continues to use.

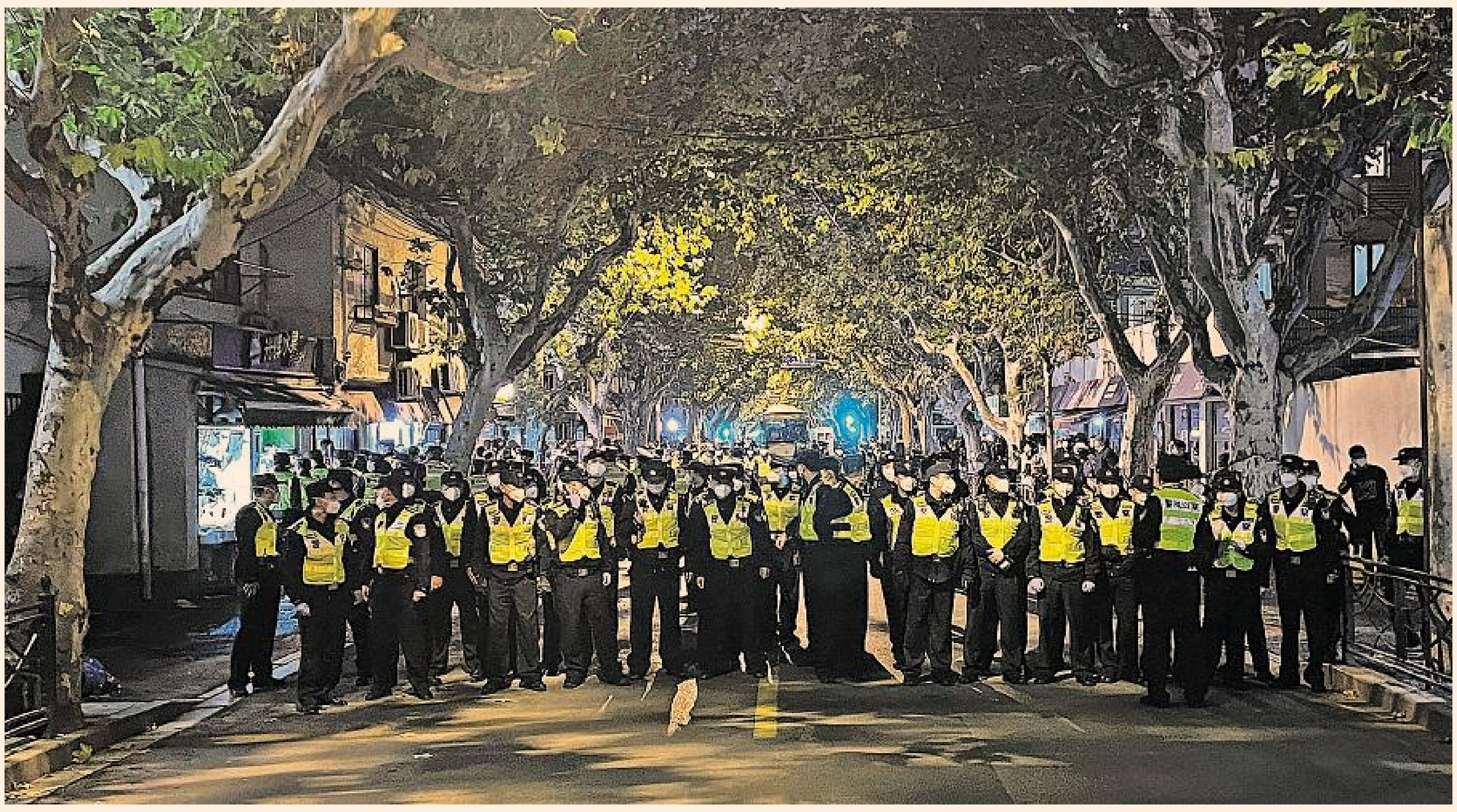
"He really is the kind of politician the KMT needs," Nachman said. Young by KMT standards at 43, Chiang's record as a lawmaker has been uncontroversial as he aligned himself with mainstream positions on social welfare, backed marriage equality and steered clear of the KMT's radical pro-China wing.

China. Civil unrest

Vigil stirs open defiance on streets of Shanghai

Protest at zero-Covid policies develops into challenge to Beijing's wider authority

THOMAS HALE — SHANGHAI



Blockade: Chinese police prevent access to a site where protesters had gathered in Shanghai yesterday — AP

By the time dusk had fallen on Wulumuqi Road yesterday, one of the most striking scenes of civil disobedience in mainland China in recent decades was under way.

Onlookers described the gathering, at a busy crossroads in central Shanghai near to where a vigil for the victims of a fire in western China had taken place a day earlier, as unlike anything they had witnessed before.

Many hundreds of people were congregated at any given point, with more stopping to watch or to walk by, flanked by hundreds of police officers. For several hours, officers struggled to contain a spontaneous expression of defiance over the government's coronavirus policies and its wider authority that was mostly peaceful, but frequently threatened to boil over.

"We want everyone to hear our voice," said one 24-year-old, in comments that echoed the wider mood of those in attendance. "Freedom means both zero-Covid freedom and political freedom."

The gathering formed part of a nationwide wave of discontent against China's strict zero-Covid policies, which has been energised by a sense of anger over the death of 10 people during a fire in the locked-down city of Urumqi on Thursday. The tragedy, which the vigil on Saturday was marking, has been widely blamed on the restrictions, which authorities have denied.

As well as Shanghai, vigils were also held at universities in Nanjing and Wuhan, while there were also signs of growing discontent at Tsinghua university in Beijing yesterday, where students held a peaceful protest against the government's coronavirus policies.

Some of the protesters in Shanghai yesterday held up sheets of white paper on which nothing was written, a reference to the censorship that is a frequent occurrence online in China. When several sheets floated to the ground from a nearby building, the crowd let out a roar of approval and burst into applause.

Complaints about the government's zero-Covid approach, which resulted in a two-month lockdown of China's largest city earlier in the year, were bound up with simmering frustrations over the wider political environment and a sense of diminished freedoms.

"I think the [lockdown] measures taken two years ago were scientific, but they're unscientific now," the 24-year-old said. Like others, he declined to give his name over concerns for his safety. "I think the whole regime, the whole system is not correct," he continued. The anger over the pandemic was "just a fuse".

Those who took part in the Saturday evening vigil were dispersed by the police by the early hours. But by yesterday afternoon a large crowd had gathered at the crossroads but was later dispersed further along the Wulumuqi road which was then cordoned off by a hastily assembled blockade and rows of police officers.

Most of the people were not actively protesting, and had instead gathered to observe. But the crowd was occasionally set off by individual incidents. One man pinned a white piece of paper to a tree. When a police officer ripped it down, people clashed with other officers for several minutes and panic surged across nearby groups before soon subsiding.

On other occasions, people screamed "release them" when others were dragged from the scene or bundled into police vans. Others waited on the edges, trying to avoid trouble. Some carried white flowers — a symbol of mourning, bundles of which were removed by police from the original site down the road to the sound of jeers.

One woman said that "even people who supported the [zero-Covid] policies have started to recognise that something is wrong".

She said she had attended another protest with her parents in 1989, 33 years ago, when she was just seven years old. She was referring to the Tiananmen Square protests in Beijing, which were echoed across cities nationwide, but did not say the name out loud.

"That had an impact on my whole life," she said. "Now my daughter is seven and I don't dare bring her here. I don't know what might happen."

Separately, down the street and seemingly unrelated to the gathering, there were signs of the pulsating anger bubbling elsewhere across China. One man at a PCR testing site hurled a woman in a hazmat suit to the ground. She lay motionless for a time before eventually being helped up.

'We want everyone to hear our voice. Freedom means both zero-Covid freedom and political freedom'

As the gathering wore on into the evening, occasionally breaking out into shouts and clashes, traffic continued to pass the scene and ordinary life occasionally interjected itself. At one point a truck stopped to collect rubbish from nearby bins.

The gathering appeared to lose momentum around midnight local time yesterday, according to one person who was at the site.

Although thousands of people are likely to have passed or attended the protest, the number is small relative to the size of the city.

Yet in mainland China, the very sight of open protests against police and the government in such a public venue is rare and significant, and images circulated explosively online despite rapid censorship.

As small numbers of people were taken away by police, the vast majority remained, quietly observing the scene from the sidelines, eager to see what would happen next.

"We have families, we have jobs, we don't dare to step forward," the woman said.

"But at least we know what is right and we know who we should support. Watching is a kind of support."

Myanmar

Aung San Suu Kyi isolated in jungle prison, says former aide

JOHN REED — NEW DELHI

Aung San Suu Kyi is being held in isolation in a whitewashed concrete-block hut without window blinds at a prison camp in a jungle clearing, according to one of the few people who has seen her since last year's military coup.

Authorities at the prison near Naypyidaw, Myanmar's capital, had erected about 12 mobile phone-blocking towers around the site, including a cluster around her hut, said Sean Turnell, the deposed leader's former economic adviser.

The Australian academic, who was tried and convicted alongside the 77-year-old deposed leader in an "official secrets" case, said he believed these were intended to prevent any pictures of her emerging.

Turnell, who was released by the regime after 650 days in captivity, said that despite her jailing by Min Aung Hlaing's military junta, Aung San Suu Kyi was in "good spirits" and following world events.

"She was fascinated by the travails of Boris Johnson and Liz Truss, and horrified at [Vladimir] Putin and the state of the world," Turnell told the Financial Times. "But she was confident that she would be back."

Turnell said camp authorities had denied Aung San Suu Kyi reading material but he managed to get books to her via "informal and complex" channels.

The Australian's account offers a rare glimpse into the daily life in detention of Myanmar's ousted leader whose National League for Democracy won re-election to a second term shortly before the coup. The regime has barred her lawyers from speaking to the press.

After the regime convicted her, Turnell and three others of violating Myanmar's official secrets act in September, Aung San Suu Kyi was forced to wear a prison-issue brown skirt and cream-coloured blouse. "She was always rake-thin, but she's even thinner," said Turnell. However, "she's strong; she remains as she always was".

Turnell, 58, also gave details of his own incarceration, initially at Insein prison in Yangon, the former capital, that shed light on one of Asia's most isolated regimes. Myanmar's military government did not respond to a request for comment.

According to the Assistance Association of Political Prisoners, a campaign group, Min Aung Hlaing's regime has killed more than 3,400 people and imprisoned thousands of others since the February 2021 putsch.

Ko Bo Kyi, the AAPP's joint secretary, welcomed Turnell's release, describing him as being "like a diplomatic hostage" and called for the release of other prisoners. "Over 12,000 remain detained and this is a conservative figure," he said. "The so-called releases were actually meant as a distraction for international opinion."

Turnell, an economist at Macquarie University in Sydney and former Reserve Bank of Australia official, was arrested a few days after the coup while checking out of a Yangon hotel after an employee warned him police were on their way.

"I figured out quickly that they wanted to use me as a way to get at Daw Suu, to suggest financial interests between foreigners and her," Turnell said, referring to Aung San Suu Kyi.

Renewables

Lebanese businesses embrace solar power after state fails to address energy crisis

RAYA JALABI — BEIRUT

Customers buying dairy products used to make Lebanese shopkeeper Sabah Hashem nervous.

Over the spring the fridges at his minimarket were usually off for more than half the day: electricity from the state-run utility had trickled to a near halt and the operator of his back-up generator was rationing supplies as diesel costs rose.

"I had to open yoghurt in front of customers before selling it to them to make sure it hadn't soured," 39-year-old Hashem said at his shop in Hasbaya el-Metn, a village 20km east of Beirut. "I was up all night worrying I'd make my customers sick; you can't run a business like that."

As another summer without power loomed, Hashem had had enough. He pooled his savings and borrowed cash from a friend living abroad to install a 2kW solar energy system on the roof of his shop, enough to power the lights and two fridges 24 hours a day. It cost $3,700 but the outlay was worth it: "Now I sleep easy," he said.

Lebanon is mired in an economic crisis in which the Lebanese pound has lost more than 95 per cent of its value against the dollar since October 2019. The rising costs of fuel imports, exacerbated by Russia's invasion of Ukraine, have contributed to state-run Électricité du Liban's inability to provide regular power.

Hashem is one of tens of thousands of Lebanese who have turned to solar power in the absence of reliable electricity supplies from EdL.

The solar boom is a byproduct of Lebanon's crisis. Private installations in businesses and homes since 2020 will have added 350MW of renewable power, about 5-7 per cent of Lebanon's annual energy needs, by year-end, said Pierre El Khoury, head of the state-affiliated Lebanese Center for Energy Conservation. Small projects, many run by the UN and non-governmental groups, added just 100MW of solar power between 2010 and 2020, he added.

At the COP27 climate conference in Egypt, Lebanon reaffirmed pledges to source 30 per cent of its energy from renewables by 2030. But industry experts say international financing for 11 solar projects approved in May depends on the finalisation of a $3bn IMF rescue package. The package is itself contingent on reforms, at EdL and elsewhere, that have yet to be adopted by the caretaker government. Since 1992, electricity spending has accounted for 40 per cent of government debt, according to a 2021 study.

Bright spot: the erratic mains supply has boosted take-up of solar power

EdL announced a price rise last week, a step officials said will eventually help the state afford fuel to fire up power plants and increase supply.

Some 700 companies are now licensed to install solar, up from 130 in 2020, according to the LCEC.

A basic household set-up sufficient to run several appliances such as fridges costs $2,000-$3,500, down 15-20 per cent since 2020 because of a glut of panels and increased competition, according to multiple installers. Prices can reach $15,000 depending on the size of the property and quality of the system, while commercial projects can cost up to $200,000.

Meanwhile, generator operators, long Lebanon's sole providers of alternative power, are struggling. Jammal Amer, who runs neighbourhood generators in the southern district of Zahrani, said he started the year with 1,000 clients, including municipalities, but has lost more than 700 since the spring: "90 per cent of them to solar" as fuel costs rise.

Amer charges L£1mn (about $25 at current market rates) a month for four to five hours of power a day, half the monthly wage for most of his clients, who cannot afford the upfront costs of solar energy.

Lack of a legal framework hampers wider adoption of renewable energy, experts say. Although small-scale use is allowed, solar energy producers are prohibited from connecting to EdL's grid or selling spare power to neighbours. A bill to address this has stalled in Lebanon's parliament.

"We need serious reforms for a proper energy transition. It's going to take years to integrate all of these individual systems into the grid," said Laury Haytayan, a Lebanese energy expert at the New York-based Natural Resource Governance Institute.

Haytayan pointed out that Lebanese citizens' unplanned switch to solar "means we're removing the pressure on our government to do its most basic job".

The shortfall in state supplies exacerbates inequality among those who cannot afford alternative sources of power. Mariam Hassan, a beautician living in a southern Beirut slum, has been without electricity since May. Her monthly wage, equivalent to $150, can no longer stretch to cover her children's schooling and generator fees.

Hassan's siblings bought her a small solar-powered battery this summer so she could charge her phone and keep her business afloat. But when it broke she could not afford the $100 to fix it.

Her neighbours have taken out interest-free loans with Hizbollah's al-Qard al-Hasan microfinancing arm to install solar systems, "but you need to guarantee them with gold and I've already sold everything", she said.

"All anyone speaks about today is solar. But for those of us who can't afford it, we're living and dying in darkness."

Cartier
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Twitter trouble Elon Musk's best chance of bringing advertisers back is to appoint a new CEO, says one agency chief ➔ PAGE 9

Companies & Markets

Investors back minute robots that deliver drugs to brain

- Bionaut Labs raises $43mn for trials
- Device aims to minimise side effects

HANNAH KUCHLER — LONDON

The team behind Apple's Face ID is developing tiny robots controlled by magnetic propulsion that can deliver drugs into the brain to target diseases that are hard to treat.

Los Angeles-based Bionaut Labs raised $43.2mn in a second round of financing led by Khosla Ventures to fund the first clinical trials to try to prove that the robots are safe and effective. Seven new investors, including Israel's Deep Insight and Canada's Sixty Degree Capital, joined the round.

The company is starting with trials to deliver drugs to treat a type of brain tumour and a rare paediatric neurological disorder, Dandy-Walker Syndrome, where the robot will be used to poke a hole in a cyst.

> 'There are so many places in the body where science today cannot reach easily'
>
> Michael Shpigelmacher

It eventually hopes to address trickier and more common diseases such as Parkinson's, Huntington's, Alzheimer's and strokes.

Michael Shpigelmacher, Bionaut's chief executive, founded the company with Aviad Maizels because he wanted to do something "more meaningful" than consumer electronics. The pair co-founded PrimeSense, an Israeli 3D sensor company that they sold to Apple for about $400mn in 2013.

Shpigelmacher said the remote-controlled robots had the potential to become a "platform", opening the way to treating diseases in the "holy grail" of the brain, across the central nervous system and beyond. The robots could also be used to diagnose disease by taking biopsies. "There are so many places in the body where science today cannot reach easily," he added.

The robots — a few millimetres long and containing a strong micro-magnet — would be injected at the back of the head. Then, using an external control system, it would be propelled by magnetic fields to the target area to release a drug and then return to the needle to be extracted.

Shpigelmacher said his "aha moment" came when he realised that even when aimed at treating something very local, drugs were always distributed around the whole body, risking widespread side effects.

"That didn't make sense to me as a roboticist. Robotics is all about accelerating the world around you in a precise manner," he said.

The US Food and Drug Administration has granted Bionaut Labs a humanitarian use device designation and an orphan drug designation to accelerate its journey through clinical trials.

Iahn Cajigas González, a professor of neurosurgery at the University of Pennsylvania, said when he first heard about the device he was "incredulous" that it would actually work. "My biggest concern when I hear of any technology is: is it going to be deployed safely? And everything that I saw when I visited their facilities shows that they really are very meticulous at every stage of the way. So I think it would fill a very important niche," he said.

Samir Kaul, founding general partner at Khosla Ventures, said the long-term opportunity was "massive".

He said Shpigelmacher was working closely with experts. But he added that it was an advantage that he did not have a background in medical science.

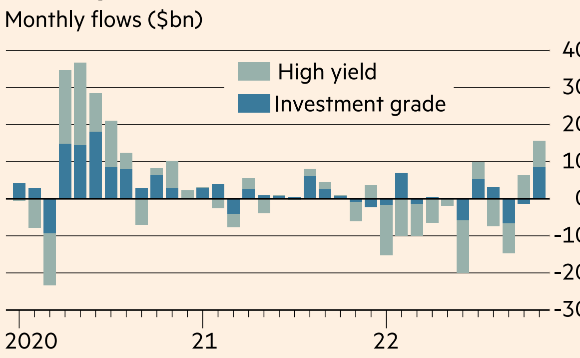
"Elon Musk wasn't an auto executive, Brian Chesky didn't come from Hilton, Travis Kalanick was not in taxi cabs. Sometimes big disruptions need to come from the outside," he added.

Looking up US corporate bond funds feel $16bn benefit from signs of easing inflation

Michael Nagle/Bloomberg

US corporate bond funds poised for best monthly inflows since 2020

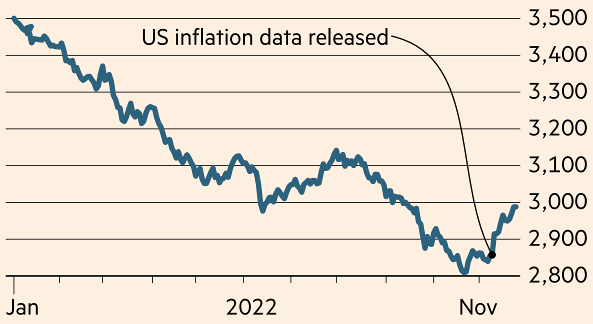
Monthly flows ($bn)



November 2022 data are month to date
Sources: EPFR; Refinitiv; Ice Data Services

Inflation report sparks late-year rally in US corporate bonds

Ice BofA US corporate index



HARRIET CLARFELT — NEW YORK

Investors have poured almost $16bn into US corporate bond funds this month, underscoring how signs of easing inflation have helped sentiment after a brutal sell-off in much of the year.

Funds holding high-grade bonds have garnered $8.6bn of new client money in the month to November 23, while those focused on riskier junk-rated debt have posted net inflows of $7.1bn. The combined figure is set to be the highest monthly inflow since July 2020 if the trend holds in the final week of November, according to data provider EPFR.

The surge of inflows into credit funds comes as Wall Street markets stage a late-year rally after data earlier in November showed the pace of consumer price growth had started to ease, prompting hopes that the Federal Reserve may soon moderate its policy of aggressive rate rises.

Almost $5bn had flowed into US corporate bond funds before the release of the consumer price index report on November 10, but a further $10.9bn shifted into the vehicles in the fortnight after, EPFR data show.

Corporate bonds have also rallied following the inflation report, with an Ice Data Services index tracking high-grade debt up 4.6 per cent, trimming the 2022 fall to about 15 per cent.

Many companies took advantage of cheap money during the stimulus-infused depths of the pandemic to refinance and issue new debt. However, the Fed has since led the charge on tightening monetary policy to curb inflation — taking US interest rates from near zero to a target range of 3.75-4 per cent.

In turn, concerns have intensified that the central bank and its peers will boost the prospects of a recession, crimping consumer spending just as businesses face much higher borrowing costs. The CPI report, which showed the annual rate of inflation cooled to 7.7 per cent in October from a high of 9.1 per cent in June, has helped to provide at least a glimmer of hope that rate rises may start to slow.

Markets are pricing in bets that US interest rates will peak at 5 per cent next June before starting to fall, having previously registered as high as 5.3 per cent. "I think the investors are saying: rates are going down rather than up, so I want to be in sooner rather than later", said Marty Fridson, chief investment officer at Lehmann Livian Fridson Advisors.

Fridson said some investors may be keen to lock in higher yields after this year's sell-off sent them soaring. The average yield on the Ice index of high-grade corporate bonds is 5.4 per cent, down from an October peak of more than 6 per cent, but well above the 2.4 per cent from the end of 2021.

Catastrophe reinsurance soars amid sector exodus

IAN SMITH — LONDON

Property catastrophe reinsurance premiums are about to soar as some companies have been forced to leave the market after another year of extreme weather, the industry has warned.

The market, which pays out for hurricane and storm damage, has been hit hard because of rising costs to provide cover, with some groups reducing their exposure.

In recent days, notes from rating agency Fitch and equity broker Peel Hunt have highlighted a significant fall in supply of reinsurance across the wider market, with catastrophe deals under particular pressure.

Peel Hunt warned a "capacity crunch . . . is on the cards". More broadly the mixture of natural catastrophes as well as Ukraine-related losses this year have prompted reinsurers to reduce the level of cover they provide.

This comes as inflation has driven up demand from insurer clients, which is expected to result in big price rises in the end-of-year dash to renegotiate policies — known as 1/1 renewals because the start date is January 1.

"It's not a question of if [the market will move], it's a question of when," said Stephen Catlin, chief executive of Convex. "The when for reinsurance is 1/1."

Reinsurers, including those operating at Lloyd's of London, have a crucial role in the global financial system: they share risks and premiums with primary insurers across a wide range of policies, meaning they help determine what can be insured and at what price.

Peel Hunt said the cost of property catastrophe reinsurance could rise as much as 30 per cent even after taking inflation into account.

"Price rises will be most pronounced in the regions worst affected by natural catastrophe events in 2022, including Australia, Florida and France," Fitch said.

The dramatic tightening in the market is making for fraught negotiations between reinsurers and brokers, who act on behalf of insurers.

The pullback from reinsurers, executives said, has been compounded by a difficulty in securing what is known as retrocession — where firms buy reinsurance themselves to share their risks. Catlin described the resulting end-of-year rush as "complete chaos".

Lloyd's of London declined to comment.

Contracts & Tenders

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NIT No: CMRL / SYS / ASA-02A / 2022
NOTICE INVITING TENDER (e-procurement tender)
International Competitive Bidding
e-Tender No.: ASA-02A
CMRL invites e-tender through e-procurement portal from reputed, experienced, financially sound, eligible applicants, who will fulfill the qualification criteria as mentioned in the tender through International Competitive Bidding (ICB) as detailed below:
"Design, Supply, Installation, Testing, Commissioning, Training, Operational Acceptance and Technical / Maintenance support of CCTV Video Surveillance System for Chennai Metro Rail Project."
Tender Documents can be downloaded from **e-procurement** website.
For further details, please visit websites:
www.chennaimetrorail.org
http://eprocure.gov.in/eprocure/app
DIPR/ 5189 /TENDER/2022
" சோதனை கடந்து சுதந்திரம் அடைந்தோம் சாதனை புரிந்து சரித்திரம் படைப்போம்"
Advisor (S&T)
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Travel & leisure. Sporting goods

Pakistani football maker hits the net in Qatar

> Sialkot's manufacturers have overcome adversity to carve a niche in global supply chains

BENJAMIN PARKIN — SIALKOT, PAKISTAN

As the World Cup tournament hots up in Qatar, the best players on the planet are passing, heading and shooting with the "Al Rihla" football, which, says Adidas, its maker, excels in speed and accuracy.

Millions of the Al Rihla balls — the name means "the journey" in Arabic — have been shipped from the secluded outskirts of Sialkot, a small industrial hub in northern Pakistan, where Forward Sports, the German company's contract manufacturer, runs one of the world's largest football factories.

Sialkot's residents mostly share their compatriots' devotion to cricket, in which Pakistan's national team were runners-up in the Twenty20 World Cup earlier this month. The sport's popularity also proved a vote-winner for Imran Khan, the former cricketer, helping him become prime minister in 2018.

While Pakistan's football team has never qualified for a Fifa World Cup, Sialkot has been a winner off the pitch. It has withstood the rise of China, automation and Pakistan's political and economic instability to build a world-class football and sports manufacturing hub, attracting leading brands in a country otherwise starved of exporters.

For global manufacturers, clusters such as these provide a valuable alternative as geopolitical tensions and Beijing's heavy-handed pandemic restrictions prompt them to diversify supply chains away from China. With Adidas also making Al Rihla balls in China, Forward is hoping to capitalise on this.

The company makes about 15mn footballs a year and Adidas has been a customer since the 1990s. "China is the factory of the world," said Khawaja Masood Akhtar, chief executive. "Whatever you have to do, you have to compete with China."

Vision Technologies, another sporting goods manufacturer in Sialkot, this year started making footballs for France's Ligue 1. "The quality which we are producing, they cannot get that from other countries," said Ahsan Naeem, Vision Sports' chief executive. "They know it is the best choice to stay with us."

In Vision's factory, thousands of workers operate machines that print, cut and bind the balls together. In one wing, they subject the balls to a series of gruelling pressure and climatic tests to ensure quality standards are met.

Sialkot's success is a rarity in Pakistan, which has long struggled with weak exports and balance-of-payments crises. Exports fell from 17 per cent of gross domestic product in 1992 to 10 per cent last year, according to the World Bank, with other traditional manufacturing industries struggling in the face of growing competition from China and other manufacturers.

Pakistan's IT sector has fared better, expanding to about $2bn in annual exports, as high costs in India, its neighbouring outsourcing giant, force global companies to look elsewhere. Nonetheless, Pakistan's overall sporting goods exports are tiny compared with those of China, according to the Observatory of Economic Complexity, a data platform, accounting for about 1 per cent of the global market, versus about half for China.

Sialkot's sports industry has long faced scrutiny over allegations of exploitative labour practices, including the use of child labour, but international buyers and authorities have tried to crack down in recent years. The fact that leading global brands continue to come to Sialkot points to some entrenched advantages.

Journey's end: racks of Adidas 'Al Rihla' tournament matchballs at a Fifa store in Doha
Christopher Pike/Bloomberg

The city "is an exception to the norm", said Asad Sayeed, a senior researcher at the Collective for Social Science Research in Karachi. "They have adapted to and improved on what the global needs are . . . in spite of the environment around them."

After Sialkot's manufacturers had earlier begun haemorrhaging sales to China, factories such as those of Forward and Vision expanded from hand-stitching balls with cheap labour to techniques such as "thermo bonding", in which the balls' synthetic leather panels are fused together by machine.

And where Pakistan's infrastructure has fallen short, Sialkot's powerful business lobby has taken matters into its own hands — even building a private airport to fly in international executives.

Not everything is high-tech, however. At MB Malik, a cricket goods manufacturer whose bats are used by members of the Pakistani national team, craftsmen cut and shave hunks of imported English willow to make bats by hand in a labour-intensive process that has been passed through generations.

"The skilled labour in our region, that's the main reason we're here," said Malik Umer, one of the company's directors. "It's very difficult for buyers to go elsewhere . . . If someone is a bat maker, you'll see their brothers and sons working in the same factory."

These habits die hard. Even Vision's Naeem, whose family has made its fortune thanks to football, admits that none of them actually plays the sport. Their sport of choice?

"Cricket", of course.

See Lex

ADVERTISEMENT

A ceramics company for a smarter, carbon neutral future

NGK INSULATORS

For most people, 'ceramics' conjures up images of kilns and pottery, tableware and tiles, or perhaps super-sharp kitchen knives.

But fewer realise that the ceramic industry keeps the modern economy ticking. For example, ceramics are the most commonly used insulators in electric systems, vital for power transmission and distribution. Vehicles would choke the skies with toxic gases without the ceramic substrates used in modern catalytic converters. And ceramic components are also essential for producing semiconductors, which are the building blocks of modern computing.

This abundant and versatile material, invented more than 25,000 years ago, now has another vital role to play. As the global economy commits to carbon neutrality by mid-century, it's becoming clear that ceramics could help us decarbonise our future.

And pioneering many of these solutions for a smarter and more sustainable world is NGK Insulators, a global industrial ceramics and technology leader.

"The world is currently moving towards a carbon-neutral, digital society. We already possess many products and technologies for these areas," says Shigeru Kobayashi, NGK's president. "We will continue to apply our advanced technologies in responding to issues such as energy and the environment to meet the expectations of our global society."

The road to carbon neutrality

The global transition to low-carbon energy sources is ongoing and various carbon capture, use and storage (CCUS) technologies are urgently needed to meet climate goals. The challenge is to develop viable solutions that can separate carbon dioxide at scale. Ceramic-based filters are one promising option.

"Compared to rival polymer membranes, ceramic membranes can achieve high accuracy in separating out molecules under conditions of high temperature and pressure while being resistant to solvents and corrosion," says Ryohei Iwasaki, executive vice president and head of the Corporate NV (New Value) Creation for NGK.

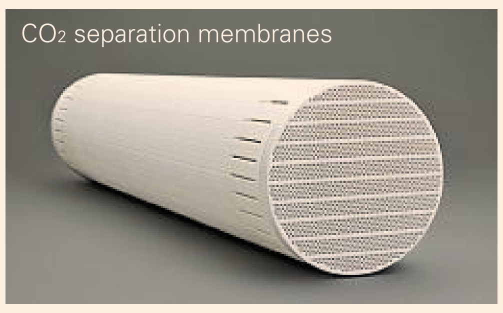
NGK had successfully developed the world's largest ceramic CO_2 separation membrane, known as a DDR-type zeolite membrane. Last year, the company took the technology further—with the announcement of the successful development of a carbon dioxide separation membrane for industrial exhaust gas.

In a test simulating industrial exhaust gases, the membrane achieved a CO_2 separation factor for simulated industrial exhausts approximately five times that of conventionally developed membranes. The company hopes to commercialise the technology to capture emissions at factories and power plants by 2030.

Equally pressing is the need to capture emissions already released into the air. All signs point to growing momentum for the technology of DAC, or direct air capture of greenhouse gases.

In 2020, governments around the world committed over $4bn to back the development and deployment of DAC technology. The first large-scale plant capable of capturing up to one million tonnes of CO_2 ($MtCO_2$) per year will begin operating in the US by the mid-2020s. The International Energy Agency forecasts that DAC will need to be scaled up from the current 0.01 to 980$MtCO_2$ by 2050.

NGK hopes to meet this challenge by developing an atmospheric CO_2 adsorptive module based on its HONEYCERAM* technology for automotive ceramics. Iwasaki sees very high market potential for such a product once demand takes off for DAC. When orders do come in, Iwasaki explains, NGK's automotive ceramics factories across the globe can be rapidly repurposed to produce these products for DAC.


CO_2 separation membranes

Another vital technology needed to shift away from fossil fuels are batteries. Production of safe, sustainable large-scale energy batteries must be stepped up to meet demand for the storage of intermittent renewable energies such as wind and solar. NGK's advanced ceramic batteries include the grid-scale NAS* battery; the world's first zinc rechargeable battery suitable for use indoors; and the ultra-thin EnerCera* battery, which will help companies and governments in their race to a fossil-fuel-free future.

Smart ceramics from the start

Ceramics is also enabling a smarter world.

In a digital society, ceramic technologies and materials will be vital for the sensors, radar, high-speed telecommunication devices and power semiconductors needed for autonomous and electrified transport. Highly compact, durable and wirelessly rechargeable ceramic-based batteries will power IoT devices everywhere, from supply chains to factory floors. And high-performance wafers and actuators using ceramic materials will play a critical role in processing the vast streams of data circulating through a digital world.

> **"We will continue to apply our advanced technologies in responding to issues such as energy and the environment to meet expectations of our global society."**

NGK is a key global supplier of ceramic components for semiconductor manufacturing equipment, piezoceramic actuators for HDD used in data centres, and bonded wafers for SAW filters that filter out unwanted smartphone frequencies. If you have a high-end smartphone, there's a good chance it contains NGK wafers or semiconductors made using the company's components. It may also regularly receive data processed by NGK's actuators.

Reflecting this crucial role, NGK's electronics and SPE (Semiconductor Production Equipment) related business has grown rapidly over the past two decades. Its digital society business segment hit record sales of ¥150bn (roughly a quarter of total sales of ¥510bn) for the year ending in March 2022. It aims to generate some ¥300bn by 2030 for this segment by continuing to roll out and market unique ceramic technologies with significant impact for areas like mobility, logistics, automation, healthcare, and telecommunications.

"There is no question that the current explosive growth of digital technology in our lives will continue onto 2050: more semiconductors, more data, faster telecommunications from 5G to 6G and beyond," says Kobayashi. "For these trends, we will utilise our high precision ceramics technologies to develop products for a carbon neutral and digital society."

Shigeru Kobayashi
President, NGK Insulators, Ltd.

Realising the infeasible

On the face of it, an energy-intensive manufacturer which generates a substantial chunk of its sales from products to filter out exhaust from internal combustion engines would seem an unlikely champion for transitioning to a decarbonised and digitalised future. But it surprisingly is.

To start with, NGK is slashing its own emissions at a dramatic pace.

This year, the company switched to using renewable energy in all its European factories and is aiming to achieve the same for all factories outside Japan by 2025. It aims to achieve carbon neutrality across all operations by 2050.

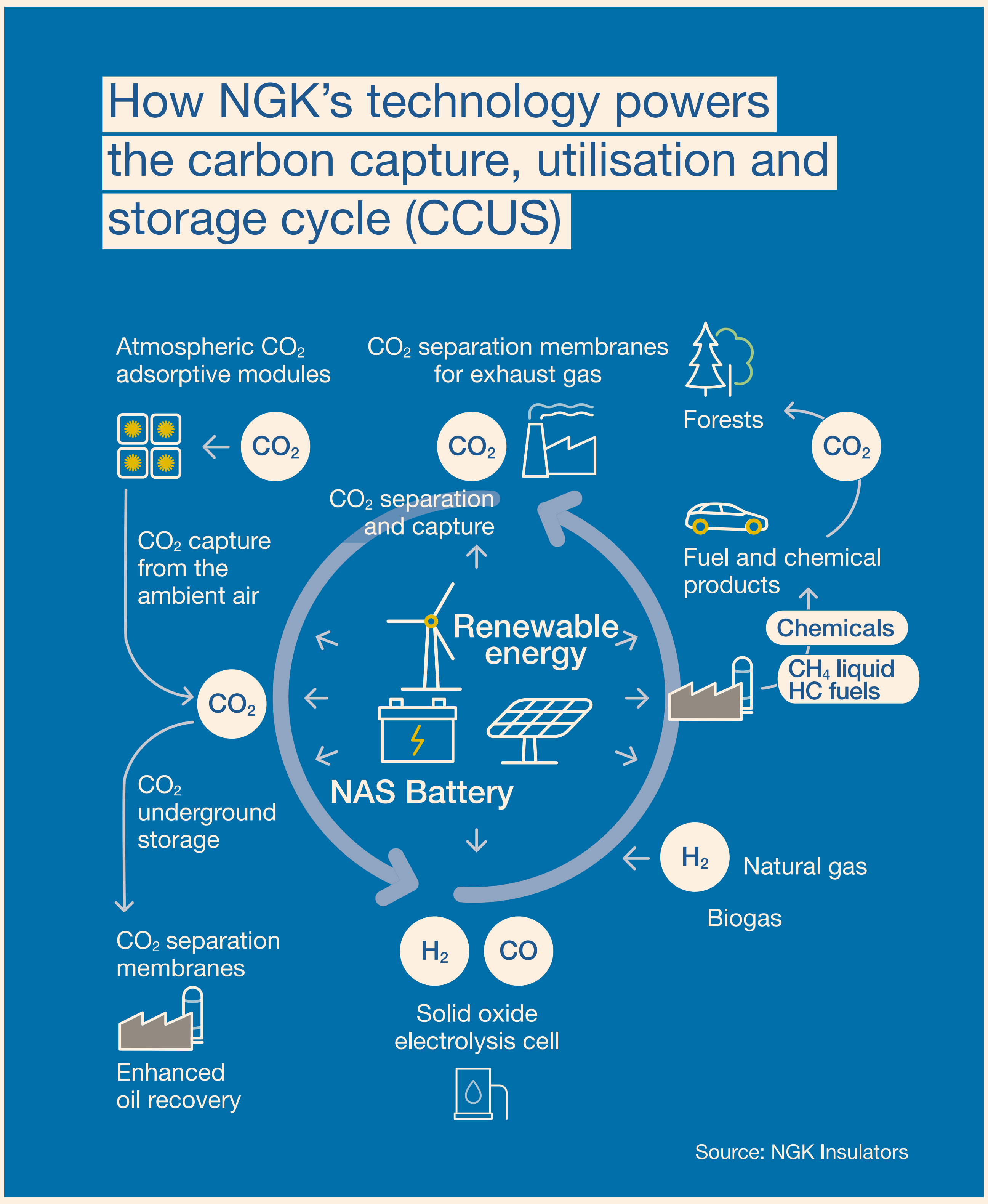
The plan is for half of all NGK's sales by 2030—and 80 per cent by 2050—to come from products related to carbon neutrality and digital society.

To that end, the company established a new division called Corporate NV (New Value) Creation earlier this year. Some ¥300bn will be poured into R&D over the coming decade, with a mission to generate over ¥100bn in new products (which represent a fifth of current total sales) by 2030.

Ceramics' versatile properties—electrical resistance, ionic conductivity, resistance to heat and corrosion, mechanical strength—allow it to be used in both batteries and insulators. And the ability, which NGK excels at, to manipulate its atomic-level structure and align its crystals as well as techniques like ultra-high precision-polishing and bonding means new features and applications can be unleashed.

As we race towards a smarter and more sustainable world, NGK will continue to "refine and utilise ceramic technologies to realise things which were previously considered technically infeasible".

**HONEYCERAM, NAS, and EnerCera are trademarks of NGK Insulators, Ltd., registered in the U.S. and other countries*



EnerCera everywhere

Currently, most wireless IoT devices are powered by single-use batteries with the hassle and cost of replacements, or rechargeable ones with long charging times and short lifespans. Existing batteries are also not sufficiently heat resistant. This prevents them from being installed through manufacturing processes using heat and limits their use in high-temperature environments.

NGK's EnerCera battery can overcome these bottlenecks.

At only 0.45mm thick and as large as a stamp with high capacity and affinity for wireless recharging technologies and energy harvesting, the new EnerCera battery is an ideal option to power maintenance-free IoT devices. Since its launch in 2019, NGK has conducted numerous demonstration tests for the battery's IoT capabilities in sectors including logistics, wearables, air quality monitoring, factory automation and smart agriculture.

Along with wireless power transfer systems and logistics tracking sensors, other potential applications include renewable energy systems, wearable tech, and back-up electricity sources.

Image, right: EnerCera batteries can be used in sensor tags to track shipments, including wine.

Necessary NAS

Large-scale energy battery capacity will be vital to stabilise grids, by storing excess energy and releasing it in times of high demand or when renewable generation falls, such as when the wind stops blowing or the sun stops shining.

NGK's ceramic-based NAS* battery appears a strong candidate for such use. The battery beats rival technologies in terms of scalability, constancy to six hours or more of high electric power output, and durability. As the world's first commercialised large-scale energy storage battery system, it is now used in about 250 locations worldwide.

Recent deployments of NAS systems include Taiwan's Kinmen Island, German energy company BASF's factories worldwide, and various locations within Japan. The battery is also gaining traction as a backup power source, independent of the grid, to deal with blackouts which have increased in frequency due to natural disasters in recent years.

Images: NAS batteries effectively meet the requirements of long-duration energy storage systems for renewables.

Buyout groups devise a new layer of leverage

Stakes in hundreds of companies owned by private equity firms have been bundled into investments with strong credit ratings

KAYE WIGGINS — LONDON

The US hospital staffing company Envision Healthcare, owned by the private equity firm KKR, has the lowest possible junk-grade credit rating and is at risk of bankruptcy, according to Moody's.

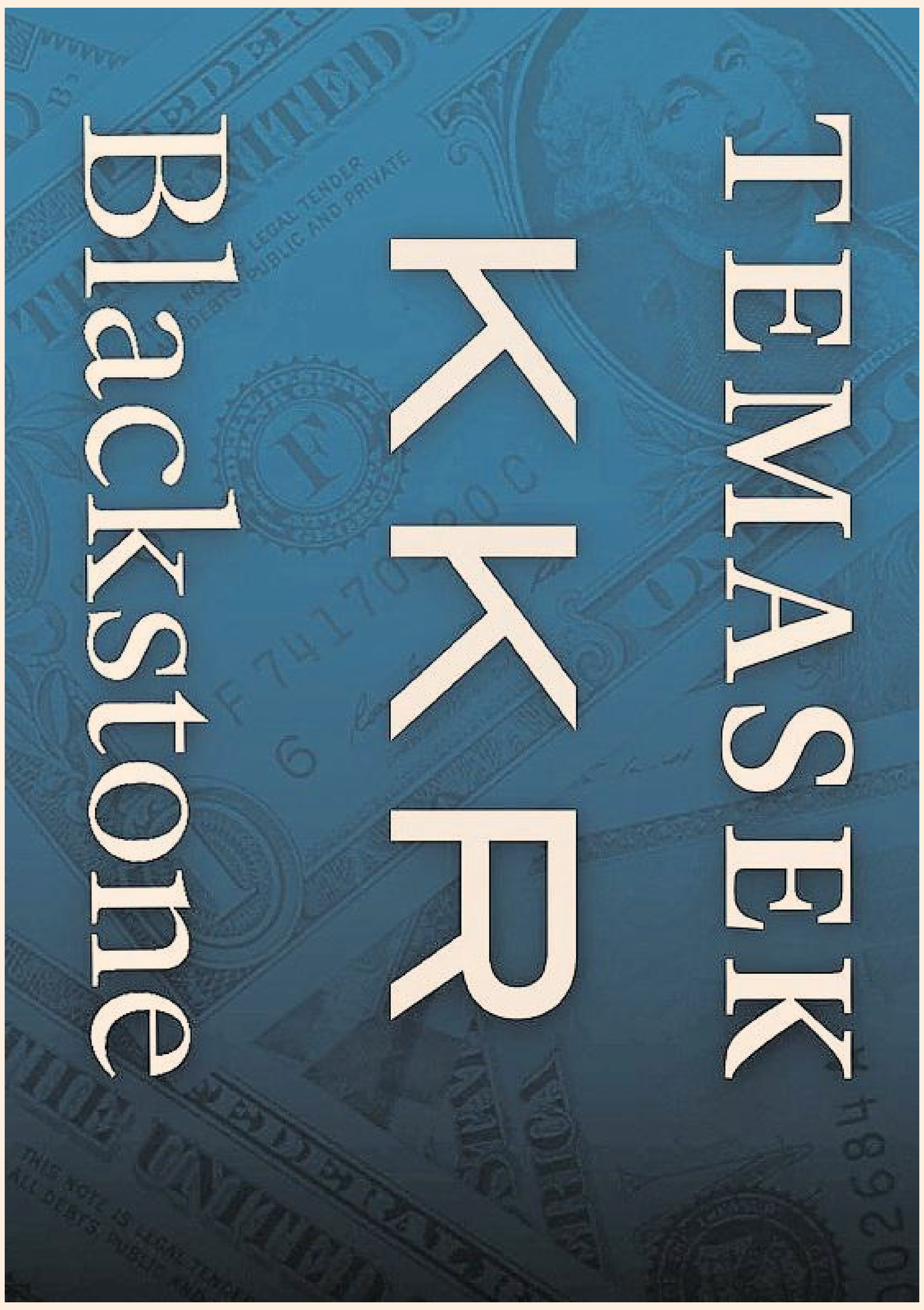
But an ownership stake in Envision, bundled with stakes in hundreds of other private equity-owned companies, has been transformed into a financial security marketed to ordinary savers as a safe investment with a stellar credit rating.

The product is known as a "collateralised fund obligation" and its aim is to diversify risk by parcelling up the companies providing returns. CFOs are, in some ways, a private equity variant of "collateralised debt obligations", the bundles of mortgage-backed securities that reached the public consciousness only when they wreaked havoc during the 2008 financial crisis.

So far, CFOs have flown largely under the radar. Although some of private equity's largest names such as Blackstone, KKR, Ares and the specialist firm Coller Capital have set up versions, this is often done privately with little or no public disclosure of the vehicle's contents — or even, in some cases, of its existence. This makes it all but impossible to build a full picture of who is exposed and on what scale.

CFOs introduce a new layer of leverage into a private capital industry already built on debt. Their rise is one illustration of how post-crisis regulation, rather than ending the use of esoteric structures and risky leverage, has shifted it into a quieter, more lightly regulated corner of the financial world.

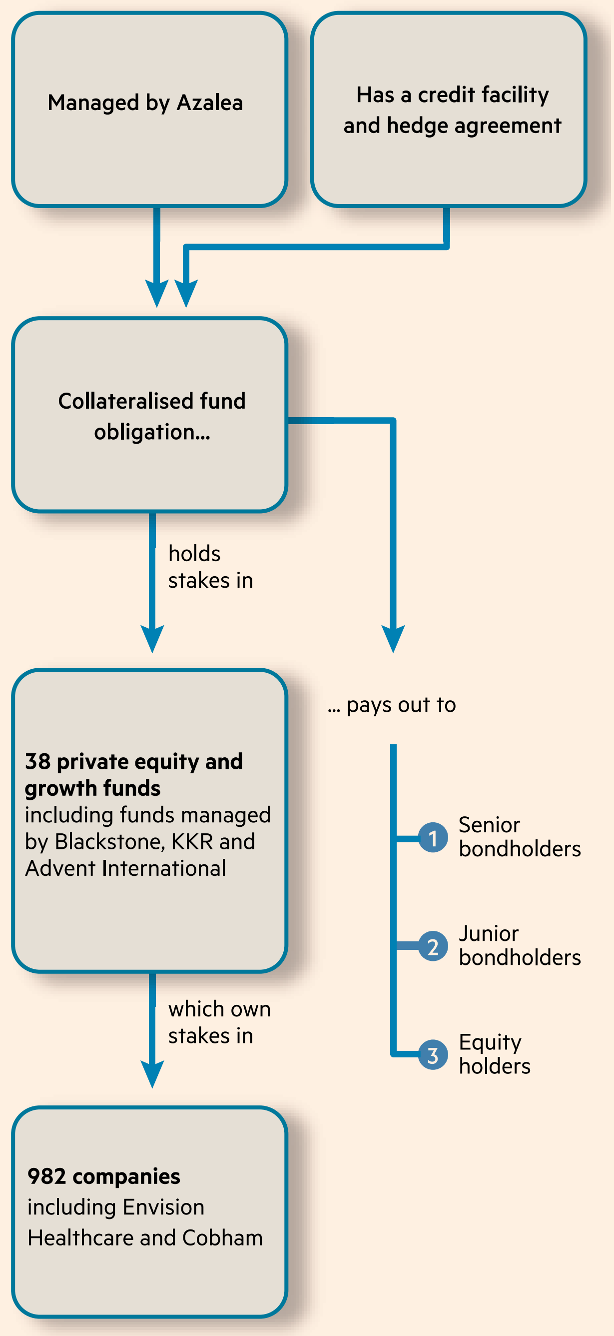
And even as a leveraged buyouts boom falters and regulators turn their attention to the risks involved in so-called "shadow banking", there are signs that their use is increasing. "We represent 50 of the world's largest asset managers and lots of large private equity shops, and this is the hottest inbound call we get," said John Timperio, a partner at the law firm Dechert who advises



Rating game: big buyout firms have busied themselves in the new instruments — FT montage/Bloomberg

Inside a collateralised fund obligation

The structure run by Azalea, a unit of Singapore's Temasek



This is a simplified illustration of the structure
Sources: company bond prospectus, May 2022; FT research

on CFOs. In marketing materials, Dechert describes CFOs as "the technicolour dreamcoat of fund finance".

The vehicle exposed to Envision is one of several CFOs from Azalea, an independently run unit of the Singapore state-owned investor Temasek. It is more transparent than most because it is offered to retail investors, though Azalea does not tell those investors which portfolio companies they are exposed to, citing "confidentiality obligations".

In effect, the CFO is a box containing stakes in 38 private equity and growth funds to which Azalea committed money. The funds are managed by many of the industry's biggest names including Blackstone, KKR, Carlyle and General Atlantic.

When the CFO was issued in May, those funds held stakes in 982 companies, including UK defence group Cobham, the Blackstone-owned casino operator Cirsa, the vet business IVC Evidensia and the debt collector Lowell, which in 2020 needed a £600mn cash injection from its owners.

The CFO issues senior and junior bonds, which can be bought by retail investors and which offer fixed interest payments of 4.1 per cent and 6 per cent. When the 38 funds hand cash to their investors, the CFO uses it to make interest payments, then holds some back in a reserve account designed to ultimately pay off the principal.

Any remaining cash, after debt repayments and expenses, goes to the holders of the CFO's equity, in this case Azalea itself. Owning the equity is "nothing more than a levered investment into private equity", said Jeff Johnston, chair of the Fund Finance Association.

S&P Global and Fitch rate the senior bonds in Azalea's CFO as A+, an investment-grade rating that means it is deemed unlikely to default, and is far higher than the typical junk-grade ratings of individual private equity-owned companies.

Azalea told the FT that it structured transactions with "downside risk mitigation in mind", using "conservative" loan-to-value ratios and putting "various structural safeguards" in place to protect investors.

It said it had a "diversified pool of quality private equity funds", adding that "a focus on the performance of individual underlying companies can lead one to lose sight of the strength of a portfolio approach". The KKR fund that owns Envision, one of the funds in the CFO, had made 1.9 times its money as of September, corporate filings show.

Private capital firms' own CFOs are largely a way to raise money, and they work slightly differently. A firm will bundle together stakes in several of its own funds and turn that into a security, offering bonds and equity to investors. Those bundles sometimes include stakes in credit, real estate and infrastructure funds as well as private equity. KKR, Coller and Ares did not publicly disclose details of their CFOs, even as Ares issued one worth about $1bn last year, according to a person with knowledge of the transaction. Coller has issued two — one this year and one in 2020 — and KKR has issued at least two. The firms, which are not required to disclose the transactions, declined to comment.

CFOs typically issue bonds worth about 50-75 per cent of the value of the holdings in the underlying funds, according to several people with knowledge of the deals. The Azalea CFO's leverage is lower, at 39.6 per cent when first issued, according to its prospectus.

The CFO model was first used in the early 2000s. Six private equity versions worth $3.6bn in total were issued between 2003 and 2006, according to the rating agency Fitch.

Some of those CFOs were downgraded or restructured during the downturn, Fitch said, though they ultimately paid off their rated bonds in full. None was issued in the six years from 2007 when "there was limited market appetite for non-traditional securitisation".

> 'We represent 50 of the world's largest asset managers . . . and this is the hottest call we get'

Private equity started using the structure again during a long era of cheap money. It is just one of the ways in which new layers of leverage have been introduced in that time.

Over the past decade, buyout groups have increasingly levered up their portfolio companies and the funds through which they buy them — often at floating interest rates that are rising fast.

Many use "subscription lines", in effect a short-term loan against the ability of pension funds and other investors to hand over the money they committed to a buyouts fund. Some use a tool known as "NAV lending", a loan to the fund that is secured against the value of the equity in the companies it owns.

Tonic: bundling has proved a boon for the likes of Envision Healthcare

Here, too, little information is available. Just 8 per cent of the 5,350 funds tracked by Preqin would tell the data provider whether or not they were using subscription lines. The loans can magnify the returns figures that buyout groups disclose to their investors, by making it look like profits were generated in a shorter time period.

It is costing the investors, according to James Albertus, assistant professor of finance at Carnegie Mellon University's Tepper School of Business. "The interest expense is reducing the distributions that go to the ultimate beneficiaries — that's the teachers relying on public pension funds," he said.

CFOs can be built on top of that leverage. Some of the funds in the Azalea CFO may already have borrowed against investors' commitments, the group has told investors, warning that lenders to those private equity funds could lay claim to the funds' assets, which could "adversely impact the cash flows available" to pay bondholders.

CFOs have received good credit ratings partly because they are a diversified bet on the cash flows from private capital funds, an asset class that has boomed, benefiting from a long period of rising valuations and cheap debt.

But the conditions that fuelled private equity's boom have gone into reverse. Buyout funds have been on a dealmaking spree for several years, buying record numbers of companies at eye-watering valuations, some of which are now facing an uncertain future as an economic downturn kicks in and borrowing costs rise.

Little data is yet available on whether, or how much, payouts from private equity funds to their investors have slowed this year as dealmaking stalls. But returns from the private equity funds raised in the years leading up to the 2008 crisis were the industry's worst in the past two decades, figures from Preqin show.

So far, CFOs have escaped much regulatory scrutiny, in part because they are private offerings which require little in terms of public filings.

But, at the Practising Law Institute's Fund Finance conference this month, Larry Hamilton, head of the law firm Mayer Brown's US insurance regulatory and enforcement group, warned that at least one regulator was starting to pay attention.

The National Association of Insurance Commissioners, a US regulatory group, is working on reform proposals that could reclassify some CFOs from debt to equity investments, since they are ultimately backed by equity stakes in companies. That could increase the cost of holding them and apply retrospectively to CFOs already issued.

"It was bothering some people at the NAIC . . . that you could take fund interests, kind of package them, securitise them, issue this collateralised fund obligation, and lo and behold you've gone from a 30 per cent-capital-charge private equity investment to something highly favoured with a lower capital charge," said Hamilton.

A banker who has worked on CFOs said buyout groups were staying quiet about their use, partly because of the NAIC's attention, which had emerged because insurance companies invested in the structures. "The NAIC finds out about these through media articles, so most [private equity firms] don't want to be public" about their CFOs, he said. "Some are very concerned about where the NAIC will come out . . . you don't want to draw attention to it as you don't want to be singled out."

At least two US state pension plans were separately considering setting up CFOs as a way of freeing up cash, the banker said. But "no one wants to be a first mover".

As raising funds gets tougher, private equity firms are looking to ever more complicated types of CFO as a possible solution.

Ahmet Yetis, a managing director at Evercore, told the conference panel about some "cutting edge technology that we're working on".

Under the model, an investor in a private equity fund — such as a pension scheme — would sell its fund stake to a new vehicle, a type of CFO called a "collateralised continuation fund obligation". The CCFO would be managed by the private equity firm that ran the original fund.

The investor would receive some cash and a share of the equity in the CCFO. The CCFO would issue bonds, and commit the proceeds to the private equity firm's new funds.

On hearing the description of the complex chain of financial transactions that would bring fresh cash into the buyouts industry at a difficult moment, one of Yetis' fellow panellists remarked: "You're truly the magician."

Additional reporting by Robert Smith

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Financial services

EY tries to smooth path for break-up vote

Big Four group appoints 'transaction committee' to handle minutiae of split

MICHAEL O'DWYER — LONDON
STEPHEN FOLEY — NEW YORK
SARAH WHITE — PARIS

EY has created a decision-making panel to resolve wrangling over who should get what after the planned split of its audit and consulting businesses.

The start of country-by-country votes among EY's 13,000 partners on whether to back the separation has already been delayed until next year as the firm grapples with the details of which assets, liabilities and people should be retained by its audit business if the split goes ahead in late 2023.

Bosses at the Big Four firm have now agreed to form a "transaction committee" with an equal number of representatives from each business, as they face concerns from some current and former partners that the audit division could be harmed by the split.

The arrangement is intended to speed up decision-making as leaders battle to keep the timeline on track. Progress on the break-up had become "very bogged down", said one partner.

While the main points have been agreed, the thornier details will be delegated by the firm's global executives to the new committee. It will have about 10 members, and bosses are considering appointing a person independent of both businesses to adjudicate in the event of a deadlock, according to people with knowledge of the planning.

Carmine Di Sibio, global chair and chief executive, will not be on the committee, said two of the people briefed on the plans. EY has yet to announce who will head either the audit or consulting business after the split but Di Sibio is expected to run the advisory arm.

His perceived closeness to the consulting business led 150 of EY's retired US partners to question whether he was properly protecting the audit side of the firm, which will be responsible for paying their pensions after the break-up.

The new governance committee could adjudicate on matters such as the allocation of real estate and intellectual property, said one of the people familiar with the plan. Certain key details of the transaction will also still need to be decided after the partner votes.

EY said the committee would "oversee the transaction and ensure balanced representation of both businesses".

Separately, three retired partners in France are pressing for a cut of the proceeds from the planned consulting spin-off, which they say would reflect their contribution to building the business. Partner profits had been reduced after 2012, when EY accelerated its investment in consulting, so the money raised should be shared "equitably", lawyers for the former partners wrote earlier this month in a letter to Di Sibio seen by the Financial Times.

"The current audit partners will receive a substantial amount of money, corresponding to past investments made by the audit business to create the value of the consulting business," they said. "It would be particularly unfair that the former EY partners who fuelled this value over the past 10 years were to be left out of this process."

Technology

Ferrotec looks beyond China with eye on export curbs

ERI SUGIURA — TOKYO

A Japanese chip equipment maker has started to reorganise its supply chains and factories in a strategy designed to allow access to US and Chinese markets after Washington rolled out new chip export controls.

The group chief executive of Tokyo-based Ferrotec said the company was accelerating plans to expand production outside China in response to requests from US clients including Lam Research and Applied Materials.

"In the future, we would like to be able to manufacture not only in China, but also in Japan, Malaysia and possibly in the US," said He Xianhan, a native of Shanghai who has headed Ferrotec since 2020.

"The Chinese market will grow in the future, so we will respond to Chinese demand with our production in China. In that way, we can continue being a winner," said He, conducting the interview over video from his base in Hangzhou, a city in eastern China.

Ferrotec's strategy to cater to both its Chinese and US customers provides a window into how companies that have traditionally gambled on China's growth are hedging their risks as the US attempts to curb Beijing's capability to develop advanced chip technology.

The US restrictions have forced Lam Research, Applied Materials and KLA Corporation, the US chip equipment suppliers, to suspend sales and maintenance services for their tools to semiconductor manufacturers in China.

> 'We would like to be able to manufacture not only in China, but also in Japan, Malaysia and . . . the US'

Ferrotec, which produces ceramic and silicon parts used in chips, makes 80 per cent of its products in China. While the company planned to maintain its large manufacturing footprint in the country, it would diversify its supply chains over the next two years, said He.

In the initial turmoil following last month's announcement of export controls, He said Chinese chip companies made unsuccessful requests for Ferrotec to provide the products their US suppliers could no longer supply.

The impact of the US sanctions has also started to filter through to the Japanese company. A senior executive of a US chipmaking equipment maker has said it would no longer procure certain Ferrotec components made in China.

"We haven't seen such an impact from other large US manufacturers but we cannot definitively say that we won't be impacted in the future," He said.

The executive cited geopolitical uncertainty as one of the reasons why Ferrotec had invested $120mn to build a plant in Malaysia, which is expected to start operations by next September.

Ferrotec, established in 1980, posted record sales of ¥133bn ($938mn) and a record operating profit of ¥22bn for the year ending in March by exploiting China's rapid growth in the chip sector.

Masahiko Ishino, analyst at advisory company Tokai Tokyo Research Institute, said that bifurcating supply chains for the US and Chinese markets was an "inevitability of the times".

Market questions. Week ahead

US jobs growth expected despite rising recession clouds

Economists expect that the US economy continued to add jobs in November despite rising interest rates and concerns of a looming recession.

Wall Street expects the number of people on US payrolls to have risen by 200,000 from the previous month, according to economists polled by Reuters. That would be the lowest job creation since December 2020 and down from the 261,000 jobs added in October.

But the robust employment gains would show strength in an already tight labour market that is in contrast with other sectors of the economy, such as the housing market or retail sales, which are struggling under the aggressive pace of interest rate increases, according to Sandra Horsfield, economist at Investec.

US job creation has come in stronger than expected for seven months, bolstering the case for the Federal Reserve's decision to raise its policy rates by a historically large 0.75 percentage points in the past four meetings as it battles with high inflation.

"The Fed will be hoping for some loosening in labour market conditions in next week's report to justify a smaller increment policy rate hike at its next meeting in December, as is widely expected," said Horsfield.

Kevin Cummins, chief economist at NatWest, said many companies had signalled that they may need to reassess their hiring needs, but "so far at least, there still appears to be enough of a backlog at other firms helping keep job growth strong heading into year end".

But he expected US job gains to slow in 2023 as the economy was likely to tip into a recession that he forecast would last through the first half of next year. *Valentina Romei*

Making solar cells at Jiangsu Fox New Energy in eastern China. Slowing global trade will hit factories from Taiwan to South Korea but complications of life under a zero-Covid policy mean manufacturers in China are set to feel the pinch
CFOTO/Future Publishing/Getty Images

How is China's manufacturing sector faring?

Conflicting currents buffeted the Chinese economy in November, muddying the picture as to the strength of the country's factory sector. The Caixin-Markit manufacturing purchasing managers' index should provide clues.

On-off signalling from the government that it would ease some of its strict zero-Covid policies were set against record daily virus caseloads and renewed lockdowns.

Meanwhile, China's state banks extended a series of mammoth credit lines to the country's real estate sector — an important driver of manufacturing activity — as global trade and demand for Chinese-made goods showed signs of slowing.

Analysts at Barclays predict a reading of 49 for the Caixin PMI data, below the 50-point threshold that separates contraction from expansion, and an acceleration to the downturn signalled by last month's reading of 49.2. Consensus estimates for the country's official manufacturing PMI, which places greater emphasis on larger, state-owned companies than the Caixin gauge, also forecast a reading of 48.9.

While analysts say slowing global trade will hit manufacturers from Taiwan to South Korea this month, in China there are the added complications of life under zero-Covid. And while the property credit lines and limited Covid easing may have boosted market sentiment, manufacturers are still likely to feel the pinch.

"Both official manufacturing and non-manufacturing PMIs for China should be in deeper contraction . . . as the number of Covid cases increased, affecting both factory and retail activities," wrote analysts at ING, the Dutch bank. "This should also be reflected in the Caixin manufacturing PMI numbers which could show a bigger contraction, as smaller factories are more adversely affected given the challenging logistical situation." *William Langley*

Will eurozone inflation fall?

Inflation has been rising in the eurozone for 16 consecutive months, yet economists expect this trend to have been broken in November. If they are right it may be enough to convince the European Central Bank to reduce the size of rate rises at its meeting next month.

The harmonised index of consumer prices for the 19-country single currency bloc is expected to rise 10.4 per cent in the year to November, according to a Reuters poll of economists.

While still painfully high, this would mark an important change of direction,

> Economists expect the eurozone trend of rising inflation to have been broken

dipping from the eurozone's all-time record inflation of 10.6 per cent in October. Economists expect the fall to have been caused by the "base effect" of a drop in energy prices from the year-ago period. "Energy prices were probably the only source of downward pressure on inflation, mainly due to a base effect," said Marco Valli, chief economist at UniCredit.

Carsten Brzeski, head of macro research at ING, said eurozone inflation "could indeed slightly drop" but he added: "It is still extremely complicated to measure the timing of the pass-through of market gas prices into consumer price inflation."

ECB rate-setters will be watching core inflation, excluding volatile energy and food prices, just as closely as the headline number. Valli said the core number was likely to flatline at 5 per cent, which may not be enough for the ECB to pivot down from its recent 0.75 percentage point rate rises. *Martin Arnold*

Technology. Social media

Musk clashes with Twitter advertisers as big brands limit spending

Billionaire owner berates chief executives amid alarm over approach to policing content

HANNAH MURPHY — SAN FRANCISCO
ALEX BARKER AND ARJUN NEIL ALIM
LONDON

Elon Musk's tumultuous reign at Twitter has led to a damaging rift with top brands and marketers, with the social media company's $5bn a year advertising business hit by a row over content moderation and resources.

Multiple top advertising agencies and media buyers told the Financial Times that nearly all of the big brands they represent have paused spending on the social media platform, citing alarm at Musk's ad hoc approach to policing content and decision to axe many of its ad sales team.

Musk, meanwhile, has sought personally to call chief executives of some brands that have curbed advertising in order to berate them, according to one senior industry figure, leading others to reduce their spend to the bare minimum required so as to avoid further confrontation with the billionaire entrepreneur.

After several waves of lay-offs and departures, Twitter's ads business team has shrunk so much that many agencies no longer have any point of contact at the company and have received little to no communication in recent weeks, according to four industry insiders.

Some brands had been unable to get feedback on how previous campaigns had performed because of the staffing shortages, one media buyer said. Others are complaining that Twitter's ads systems have also become buggy, making it difficult or even impossible to run campaigns.

Musk is under pressure to draw revenues from Twitter, as he faces $1bn in annual interest payments after loading the company with $13bn of debt to help fund his acquisition of the business.

On October 27, the day he closed his $44bn deal to buy Twitter, the Tesla and SpaceX head sought to reassure marketers that the platform would not become a "free-for-all hellscape" despite his plans to relax content moderation restrictions.

Soon afterwards he conducted rounds of calls and meetings to reassure top ad agencies and brands. One email, sent in early November and seen by the Financial Times, said of Musk: "He's one of the greatest innovators in the world, and he understands our platform and product at a level that few people do. He wants to ship exciting things, and he wants to do it quickly."

In the meetings, Musk appeared across all the details of how the platform is run, two agency executives said, impressing brands with his knowledge. "He knows more than [former chief executive] Jack Dorsey ever did. He has immersed himself very deeply in the business," a senior executive at a top advertising agency said.

But the relationship soon soured after Musk shed more than half of the company's 7,500 workforce, upending Twitter's ads sales team and trust and safety team, and heightening concerns that misinformation and hate speech could proliferate on the platform.

Groups such as General Motors, Volkswagen, Carlsberg and General Mills have announced they would be pausing spending on the platform given the moderation concerns.

Many in the advertising industry have struggled to keep track of the changes. Robin Wheeler, who started heading up Twitter's ads sales business under Musk after the former chief Sarah Personette resigned, left the company last week. Bloomberg reported that Wheeler was fired by Musk after refusing to sack more people in the ad sales team. Twitter and Musk did not respond to requests for comment.

Elon Musk: has upended Twitter's ads sales and trust and safety teams

Musk's own use of Twitter has also unnerved brands who fear their content being placed next to toxic content.

The self-described "free speech absolutist" has further irked advertisers when he relaunched Twitter's premium subscription service, Twitter Blue, as its "blue tick" feature was abused by impersonators, targeting politicians and brands such as Eli Lilly and Lockheed Martin. He has paused the rollout of the service until there is a "high confidence of stopping impersonation".

Last week Musk also began to reverse certain permanent bans of high-profile figures, such as former US president Donald Trump, despite previously pledging not to do so until he had convened a content moderation council of experts.

Analysis by left leaning non-profit Media Matters suggested that 50 of the top 100 advertisers — accounting for $750mn in advertising in 2022 so far — had paused or announced their intention to pause spending since Musk took the helm, and a further seven had reduced spending to a trickle.

Agencies too have put out directives. In mid-November, Omnicom Media Group recommended clients pause spending on the platform, according to three people familiar with the move, following a similar recommendation from Interpublic.

Last week WPP's GroupM raised its assessment of advertising on the platform to "high risk", two people familiar with the situation said.

Omnicom declined to comment. Interpublic and GroupM did not immediately respond to a request for comment. It is unclear if and when brands will return.

"Musk's best chance of bringing advertisers back to Twitter is to appoint a new CEO," said Darren Savage, chief strategy officer at Tribal Worldwide. "Particularly, one who understands what Twitter is, has the credibility with advertisers and users — and is then left alone to do their job."

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MARKET DATA

WORLD MARKETS AT A GLANCE

FT.COM/MARKETSDATA

Change during previous day's trading (%)

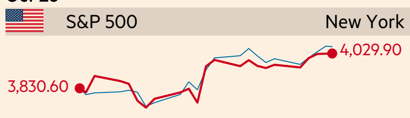
S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
0.07%	-0.37%	0.51%	0.27%	0.07%	-0.35%	-0.49%	-0.08%	No change	-0.412%	0.632%	0.350%	1.51%	0.88%

Stock Market movements over last 30 days, with the FTSE All-World in the same currency as a comparison

AMERICAS

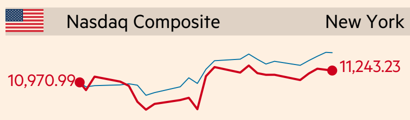
Oct 26 - - — Index — All World

S&P 500 New York



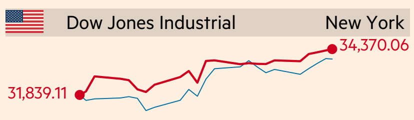
Day ↗0.07% Month ↗4.44% Year ↘-14.27%

Nasdaq Composite New York



Day ↘-0.37% Month ↗0.40% Year ↘-29.04%

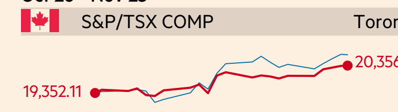
Dow Jones Industrial New York



Day ↗0.51% Month ↗7.97% Year ↘-4.00%

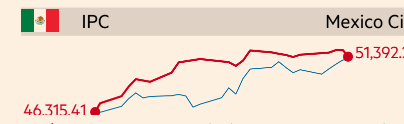
Oct 26 - Nov 25 — Index — All World

S&P/TSX COMP Toronto



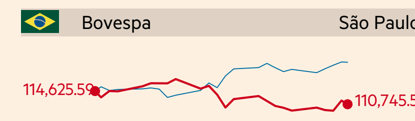
Day ↗0.33% Month ↗6.90% Year ↘-5.55%

IPC Mexico City



Day ↘-0.79% Month ↗6.03% Year ↗1.87%

Bovespa São Paulo

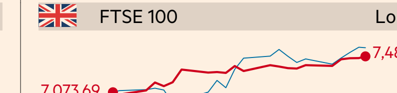


Day ↘-2.00% Month ↘-4.40% Year ↗3.56%

EUROPE

Oct 26 - Nov 25 — Index — All World

FTSE 100 London

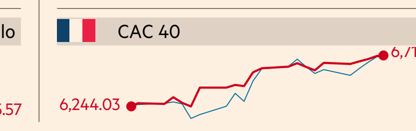


Day ↗0.27% Month ↗7.85% Year ↗2.44%

FTSE Eurofirst 300 Europe

Day ↗0.07% Month ↗9.29% Year ↘-6.74%

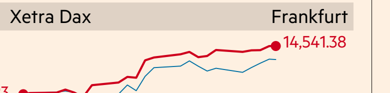
CAC 40 Paris



Day ↗0.08% Month ↗9.48% Year ↘-4.68%

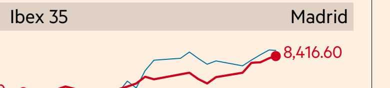
Oct 26 - Nov 25 — Index — All World

Xetra Dax Frankfurt



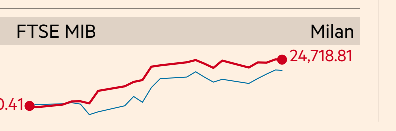
Day ↗0.01% Month ↗1.93% Year ↘-8.71%

Ibex 35 Madrid



Day ↗0.34% Month ↗9.58% Year ↘-4.27%

FTSE MIB Milan

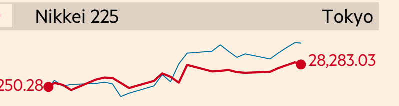


Day ↘-0.05% Month ↗13.88% Year ↘-8.84%

ASIA

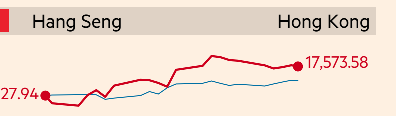
Oct 26 - Nov 25 — Index — All World

Nikkei 225 Tokyo



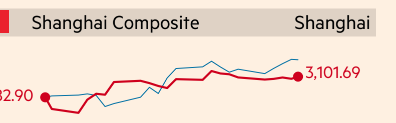
Day ↘-0.35% Month ↗4.91% Year ↘-3.42%

Hang Seng Hong Kong



Day ↘-0.49% Month ↗15.74% Year ↘-28.83%

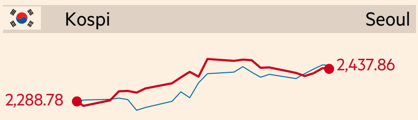
Shanghai Composite Shanghai



Day ↗0.40% Month ↗2.07% Year ↘-13.67%

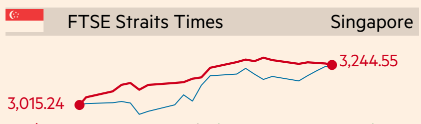
Oct 26 - Nov 25 — Index — All World

Kospi Seoul



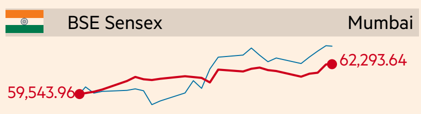
Day ↘-0.14% Month ↗9.02% Year ↘-18.58%

FTSE Straits Times Singapore



Day ↘-0.26% Month ↗9.25% Year ↗0.54%

BSE Sensex Mumbai



Day ↗0.03% Month ↗4.98% Year ↗6.71%

Country	Index	Latest	Previous
Argentina	Merval	163656.81	161009.39
Australia	All Ordinaries	7447.60	7432.20
	S&P/ASX 200	7259.50	7241.80
	S&P/ASX 200 Res	5905.70	5964.00
Austria	ATX	3267.27	3256.29
Belgium	BEL 20	3707.95	3701.57
	BEL Mid	9623.23	9626.14
Brazil	IBovespa	109597.06	111831.16
Canada	S&P/TSX 60	1239.04	1234.12
	S&P/TSX Comp	20412.16	20344.07
	S&P/TSX Div Met & Min	1383.19	1390.16
Chile	S&P/CLX IGPA Gen	28093.70	28584.57
China	FTSE A200	9998.55	9951.67
	FTSE B35	9000.71	8988.96
	Shanghai A	3251.00	3238.00
	Shanghai B	289.66	289.16
	Shanghai Comp	3101.69	3089.31
	Shenzhen A	2075.77	2090.39
	Shenzhen B	1120.82	1124.01
Colombia	COLCAP	1261.61	1260.21
Croatia	CROBEX	2013.05	2011.29

Country	Index	Latest	Previous
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	1243.26	1244.47
Denmark	OMXC Copenahgen 20	1752.39	1746.76
Egypt	EGX 30	12779.44	12600.09
Estonia	OMX Tallinn	1727.79	1730.68
Finland	OMX Helsinki General	11044.22	11027.94
France	CAC 40	6712.48	6707.32
	SBF 120	5151.27	5147.69
Germany	M-DAX	25971.45	26054.93
	TecDAX	3118.19	3127.37
	XETRA Dax	14541.38	14539.56
Greece	Athens Gen	917.00	919.78
	FTSE/ASE 20	2233.43	2241.93
Hong Kong	Hang Seng	17573.58	17660.90
	HS China Enterprise	5971.10	5992.35
	HSCC Red Chip	3511.74	3484.29
Hungary	Bux	45715.33	45276.59
India	BSE Sensex	62293.64	62272.68
	Nifty 500	15727.25	15680.80
Indonesia	Jakarta Comp	7053.15	7080.52
Ireland	ISEQ Overall	7313.29	7348.52
Israel	Tel Aviv 125	1903.94	1899.41

Country	Index	Latest	Previous
Italy	FTSE Italia All-Share	26735.75	26757.84
	FTSE Italia Mid Cap	39993.27	40090.04
	FTSE MIB	24718.81	24730.89
Japan	2nd Section	7228.27	7239.06
	Nikkei 225	28283.03	28383.09
	S&P Topix 150	1731.87	1734.25
	Topix	2018.00	2018.80
Jordan	Amman SE	2463.56	2453.54
Kenya	NSE 20	1643.03	1643.95
Kuwait	KSX Market Index	6633.44	6603.51
Latvia	OMX Riga	1109.92	1112.38
Lithuania	OMX Vilnius	931.95	937.72
Luxembourg	LuxX	1462.05	1464.99
Malaysia	FTSE Bursa KLCI	1486.54	1501.88
Mexico	IPC	51570.49	51979.01
Morocco	MASI	10805.97	10852.14
Netherlands	AEX	722.93	722.74
	AEX All Share	984.44	984.22
New Zealand	NZX 50	11382.56	11321.71
Nigeria	SE All Share	46604.94	46232.37
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	42936.73	42903.65

Country	Index	Latest	Previous
Philippines	Manila Comp	6606.94	6510.32
Poland	Wig	56259.78	56107.93
Portugal	PSI 20	5877.95	5880.12
	PSI General	4505.86	4527.66
Romania	BET Index	11569.94	11575.78
Russia	Micex Index	2436.57	2445.30
	RTX	1245.71	1212.57
Saudi-Arabia	TADAWUL All Share Index	10938.75	10965.41
Singapore	FTSE Straits Times	3244.55	3252.88
Slovakia	SAX	336.17	331.17
Slovenia	SBI TOP	-	-
South Africa	FTSE/JSE All Share	73151.38	73127.34
	FTSE/JSE Res 20	71441.23	71473.66
	FTSE/JSE Top 40	66753.48	66764.87
South Korea	Kospi	2437.86	2441.33
	Kospi 200	316.07	317.30
Spain	IBEX 35	8416.60	8388.10
Sri Lanka	CSE All Share	8148.06	8028.14
Sweden	OMX Stockholm 30	2116.74	2106.75
	OMX Stockholm AS	813.29	811.42
Switzerland	SMI Index	11168.03	11157.56

Country	Index	Latest	Previous
Taiwan	Weighted Pr	14778.51	14784.00
Thailand	Bangkok SET	1620.84	1624.96
Turkey	BIST 100	4874.34	4874.34
UAE	Abu Dhabi General Index	9222.93	9251.11
UK	FT 30	2533.50	2528.70
	FTSE 100	7486.67	7466.60
	FTSE 4Good UK	6752.32	6739.22
	FTSE All Share	4112.31	4102.66
	FTSE techMARK 100	6418.68	6384.95
USA	DJ Composite	11439.02	11375.30
	DJ Industrial	34370.06	34194.06
	DJ Transport	14480.33	14380.42
	DJ Utilities	970.42	965.64
	Nasdaq 100	11778.45	11838.72
	Nasdaq Cmp	11243.23	11285.32
	NYSE Comp	15619.60	15545.52
	S&P 500	4029.90	4027.26
	Wilshire 5000	40058.88	40013.56
Venezuela	IBC	12944.63	12581.21
Vietnam	VNI	971.46	947.71

Country	Index	Latest	Previous
Cross-Border	DJ Global Titans ($)	424.77	425.55
	Euro Stoxx 50 (Eur)	3961.40	3961.99
	Euronext 100 ID	1279.45	1278.56
	FTSE 4Good Global ($)	9849.49	9859.43
	FTSE All World ($)	412.57	412.90
	FTSE E300	1739.73	1738.57
	FTSE Eurotop 100	3423.27	3419.21
	FTSE Global 100 ($)	2531.42	2537.35
	FTSE Gold Min ($)	1704.71	1679.26
	FTSE Latibex Top (Eur)	4440.00	4432.20
	FTSE Multinationals ($)	2693.91	2685.47
	FTSE World ($)	751.00	751.39
	FTSEurofirst 100 (Eur)	4621.30	4616.44
	FTSEurofirst 80 (Eur)	5375.69	5372.40
	MSCI ACWI Fr ($)	625.96	623.24
	MSCI All World ($)	2706.01	2697.39
	MSCI Europe (Eur)	1767.95	1760.85
	MSCI Pacific ($)	2653.86	2609.27
	S&P Euro (Eur)	1772.03	1771.25
	S&P Europe 350 (Eur)	1783.28	1781.84
	S&P Global 1200 ($)	2983.75	2984.60
	Stoxx 50 (Eur)	3770.87	3766.05

(c) Closed. (u) Unavaliable. † Correction. ♥ Subject to official recalculation. For more index coverage please see www.ft.com/worldindices. A fuller version of this table is available on the ft.com research data archive.

STOCK MARKET: BIGGEST MOVERS

AMERICA

ACTIVE STOCKS	stock traded m's	close price	Day's change
Tesla	74.9	182.45	-0.75
Apple	34.8	148.27	-2.80
Amazon.com	21.3	93.68	-0.46
Nvidia	20.4	163.70	-1.49
Advanced Micro Devices	15.0	75.46	-0.94
Microsoft	13.6	247.51	-0.07
Home Depot	7.5	328.63	7.12
Netflix	5.7	284.90	-6.60
Alphabet	5.7	97.58	-0.88
Activision Blizzard	5.1	73.56	-3.03

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Cf Industries Holding	109.49	3.18	2.99
Ralph Lauren	109.91	2.81	2.62
Boston Properties	71.93	1.79	2.55
Delta Air Lines	35.26	0.77	2.23
Home Depot	328.63	7.12	2.21
Downs			
Albemarle	267.90	-16.00	-5.64
Activision Blizzard	73.56	-3.03	-3.96
Netflix	284.90	-6.60	-2.26
Freeport-mcmoran	37.25	-0.80	-2.09
Apple	148.27	-2.80	-1.85

Based on the constituents of the S&P500

LONDON

ACTIVE STOCKS	stock traded m's	close price	Day's change
Shell	131.4	2367.00	24.50
Bp	121.8	488.35	4.80
British American Tobacco	91.8	3355.50	28.00
Astrazeneca	84.3	10954.00	30.00
Glencore	80.4	533.80	-2.20
Natwest	75.2	256.00	-2.70
Diageo	69.8	3762.50	13.50
Unilever	68.3	4113.50	-6.50
Rio Tinto	64.8	5379.00	-28.00
Rentokil Initial	60.5	548.20	2.20

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Discoverie	815.00	36.00	4.62
Puretech Health	271.50	11.00	4.22
Vietnam Enterprise Investments	545.00	19.00	3.61
Icg Enterprise Trust	1168.00	34.00	3.00
Easyjet	404.90	10.80	2.74
Downs			
Home Reit	59.70	-5.30	-8.15
Dr. Martens	207.60	-13.80	-6.23
Moonpig	159.60	-9.50	-5.62
Pets At Home	276.40	-11.20	-3.89
Workspace	445.60	-17.60	-3.80

Based on the constituents of the FTSE 350 index

EURO MARKETS

ACTIVE STOCKS	stock traded m's	close price	Day's change
Roche Gs	349.1	316.12	2.89
Novartis N	269.3	84.29	0.93
Nestle N	243.4	114.71	-0.12
Edf	190.8	12.00	0.00
Cs N	161.0	3.37	-0.24
Unicredit	160.0	13.12	-0.22
Eni	159.3	14.30	0.11
Totalenergies	152.4	58.43	0.61
Asml Holding	148.8	574.20	-3.30
Lvmh	135.5	698.80	-3.40

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
A.p. M__ller - M__rsk B A/s	2083.68	51.10	2.51
A.p. M__ller - M__rsk A A/s	2023.84	44.38	2.24
Volvo, Ab Ser. A	19.01	0.37	1.98
Volvo, Ab Ser. B	18.00	0.35	1.96
Santander	2.83	0.05	1.72
Downs			
Cs N	3.37	-0.24	-6.56
Pernod Ricard	186.30	-4.35	-2.28
Adidas Ag Na O.n.	123.82	-2.84	-2.24
Vestas Wind Systems A/s	24.00	-0.54	-2.21
Vonovia Se Na O.n.	24.04	-0.52	-2.12

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO

ACTIVE STOCKS	stock traded m's	close price	Day's change
Softbank .	600.4	6079.00	15.00
Mitsubishi Ufj Fin,.	439.5	758.70	7.50
Tokyo Electron	405.7	46020.00	-360.00
Fast Retailing Co.,	342.3	79890.00	-680.00
Shionogi & Co.,	336.7	7129.00	-61.00
Sumitomo Mitsui Fin,.	321.7	4784.00	-11.00
Nippon Yusen Kabushiki Kaisha	305.4	2947.50	9.50
Nintendo Co.,	267.5	5959.00	-17.00
Toyota Motor	239.5	2054.50	8.00
Tokio Marine Holdings,.	214.4	2944.00	33.50

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Fukuoka Fin,.	2780.00	128.00	4.83
Tokyo Electric Power ,orporated	523.00	23.00	4.60
Cyberagent,.	1343.00	49.00	3.79
Kawasaki Heavy Industries,	2888.00	100.00	3.59
Tokuyama	1891.00	43.00	2.33
Downs			
Thb Japan Steel Works,	2957.00	-88.00	-2.89
Dentsu .	4430.00	-125.00	-2.74
Nexon Co.,	2799.00	-70.00	-2.44
Citizen Holdings Co.,	605.00	-14.00	-2.26
Nippon Sheet Glass ,	606.00	-11.00	-1.78

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	Nov 25 price(p)	%Chg week	%Chg ytd
Winners			
Frasers	888.00	7.9	14.2
Rolls-royce Holdings	90.85	6.3	-
Glencore	533.80	5.5	41.3
Entain	1406.50	5.0	-
Whitbread	2632.00	4.8	-
Bae Systems	806.80	4.8	46.9
Jd Sports Fashion	124.55	4.1	-
Sainsbury (j)	225.20	3.9	-
United Utilities	1064.50	3.8	-2.9
Associated British Foods	1589.50	3.6	-
Fresnillo	895.40	3.5	1.5
Bt	126.90	3.3	-
Losers			
Harbour Energy	309.90	-5.3	-
Vodafone	93.06	-4.5	-
Ocado	649.80	-4.2	-
Prudential	943.40	-3.6	-
Scottish Mortgage Investment Trust	769.20	-2.8	-
M&g	194.70	-1.8	-3.3
Rs	941.50	-1.1	-
St. James's Place	1177.00	-0.9	-30.1
Segro	828.00	-0.9	-
Natwest	256.00	-0.8	5.1
Compass	1841.00	-0.5	12.0
Smurfit Kappa	3053.00	-0.5	-

FTSE 250	Nov 25 price(p)	%Chg week	%Chg ytd
Winners			
Virgin Money Uk	175.75	20.7	-3.7
Puretech Health	271.50	13.1	-9.0
Essentra	252.00	9.6	-
Telecom Plus	2490.00	9.2	56.6
Balanced Commercial Property Trust	92.40	8.8	-
Trainline	333.20	8.2	20.2
Synthomer	147.70	7.4	-
Oxford Instruments	2185.00	7.4	-
Jupiter Fund Management	129.10	7.0	-50.4
Clarkson	3130.00	6.8	-
Firstgroup	104.90	6.8	2.3
Centamin	106.70	6.6	21.7
Losers			
Dr. Martens	207.60	-27.6	-
Petrofac	94.25	-21.1	-
Home Reit	59.70	-21.0	-
Petershill Partners	178.00	-9.1	-35.2
Asos	642.00	-8.7	-
Molten Ventures	411.60	-8.5	-
Pets At Home	276.40	-8.2	-
Shaftesbury	368.20	-6.0	-40.1
Target Healthcare Reit	80.80	-5.3	-
Capital & Counties Properties	105.80	-5.0	-
Londonmetric Property	183.10	-4.4	-
Lxi Reit	120.80	-4.0	-

FTSE SmallCap	Nov 25 price(p)	%Chg week	%Chg ytd
Winners			
Devro	311.00	66.5	54.0
Ao World	63.95	22.5	-
Tt Electronics	174.00	20.0	-
Rank	91.60	19.3	-
Nanoco	39.50	15.8	-
Augmentum Fintech	101.50	15.6	-
Fisher (james) & Sons	345.00	15.2	-5.1
Chrysalis Investments	72.10	12.8	-69.8
Funding Circle Holdings	53.90	12.3	-
Capital & Regional	58.00	11.5	-1.5
Hostelworld	101.00	11.0	46.0
Xps Pensions	142.00	9.7	-0.4
Losers			
De La Rue	77.70	-22.8	-49.9
Lsl Property Services	236.00	-10.3	-
Pod Point Holdings	69.00	-9.4	-
Schroder Eur Real Estate Investment Trust	77.00	-6.3	-
Pharos Energy	25.60	-5.5	1.6
Hunting	267.50	-5.1	67.2
Seraphim Space Investment Trust	50.00	-4.9	-
Carr's	105.50	-4.5	-
Baillie Gifford China Growth Trust	238.75	-4.5	-
Helical	345.00	-4.3	-
Atrato Onsite Energy	80.50	-4.2	-
Harworth	106.50	-4.1	-

Industry Sectors	Nov 25 price(p)	%Chg week	%Chg ytd
Winners			
Aerospace & Defense	4904.75	4.8	17.3
Mining	10776.74	3.5	-
Electronic & Electrical Equip.	9457.61	2.8	-
Travel & Leisure	6599.01	2.7	-
Food Producers	5788.54	2.6	-
Beverages	28704.47	2.6	-7.7
Industrial Metals	7482.81	2.5	17.7
Household Goods	10308.32	2.3	-
Nonlife Insurance	3261.82	2.2	-0.9
Support Services	10463.48	2.1	-
Banks	3198.05	2.0	4.8
Real Estate & Investment Servic	2260.68	1.8	-30.7
Losers			
Personal Goods	33260.40	-2.5	-7.3
Mobile Telecommunications	2377.15	-2.0	-
Automobiles & Parts	1328.02	-1.8	-
Life Insurance	6598.12	-1.6	-
Real Estate Investment Trusts	2340.74	-1.4	-
General Retailers	3229.60	-0.6	11.4
Equity Investment Instruments	11522.43	0.1	-
General Financial	12871.25	0.3	11.4
Health Care Equip.& Services	10928.09	0.6	32.4
Construction & Materials	6944.32	0.7	-
Pharmaceuticals & Biotech.	20384.15	0.8	8.7
Industrial Engineering	14837.21	1.0	-

Based on last week's performance. †Price at suspension.

CURRENCIES

Nov 25	Currency	DOLLAR Closing Mid	Day's Change	EURO Closing Mid	Day's Change	POUND Closing Mid	Day's Change
Argentina	Argentine Peso	165.6080	0.3861	172.3396	0.3517	200.2854	-0.2947
Australia	Australian Dollar	1.4818	0.0046	1.5420	0.0043	1.7921	-0.0012
Bahrain	Bahrainin Dinar	0.3771	-	0.3924	-0.0001	0.4560	-0.0017
Bolivia	Bolivian Boliviano	6.9100	-	7.1909	-0.0021	8.3569	-0.0319
Brazil	Brazilian Real	5.3586	0.0472	5.5764	0.0475	6.4807	0.0326
Canada	Canadian Dollar	1.3373	0.0042	1.3916	0.0040	1.6173	-0.0011
Chile	Chilean Peso	920.1100	12.5850	957.5104	12.8213	1112.7761	11.0364
China	Chinese Yuan	7.1622	0.0133	7.4533	0.0116	8.6619	-0.0169
Colombia	Colombian Peso	4870.0500	-19.9200	5068.0076	-22.2140	5889.8122	-46.6357
Costa Rica	Costa Rican Colon	607.0250	-2.0800	631.6992	-2.3493	734.1328	-5.3236
Czech Republic	Czech Koruna	23.3984	-0.0340	24.3494	-0.0425	28.2978	-0.1492
Denmark	Danish Krone	7.1459	0.0016	7.4364	-0.0006	8.6422	-0.0311
Egypt	Egyptian Pound	24.5753	0.0297	25.5742	0.0235	29.7212	-0.0772
Hong Kong	Hong Kong Dollar	7.8178	0.0110	8.1356	0.0091	9.4549	-0.0227
Hungary	Hungarian Forint	393.6386	-1.6254	409.6391	-1.8113	476.0644	-3.7880
India	Indian Rupee	81.6975	0.0650	85.0183	0.0429	98.8045	-0.2977

Nov 25	Currency	DOLLAR Closing Mid	Day's Change	EURO Closing Mid	Day's Change	POUND Closing Mid	Day's Change
Indonesia	Indonesian Rupiah	15672.5000	7.0000	16309.5687	2.5266	18954.2558	-63.7676
Israel	Israeli Shekel	3.4225	0.0027	3.5616	0.0018	4.1392	-0.0124
Japan	Japanese Yen	139.2500	0.8750	144.9102	0.8686	168.4082	0.4203
..One Month		139.2495	0.8740	144.9100	0.8682	168.4077	0.4194
..Three Month		139.2483	0.8716	144.9094	0.8671	168.4066	0.4171
..One Year		139.2429	0.8608	144.9062	0.8607	168.4077	0.4124
Kenya	Kenyan Shilling	122.2000	-0.0500	127.1671	-0.0891	147.7880	-0.6241
Kuwait	Kuwaiti Dinar	0.3076	0.0002	0.3201	0.0001	0.3719	-0.0012
Malaysia	Malaysian Ringgit	4.4745	-0.0205	4.6564	-0.0227	5.4114	-0.0455
Mexico	Mexican Peso	19.3340	-0.0305	20.1199	-0.0376	23.3824	-0.1262
New Zealand	New Zealand Dollar	1.6026	0.0073	1.6677	0.0071	1.9381	0.0014
Nigeria	Nigerian Naira	443.5000	-	461.5273	-0.1345	536.3665	-2.0446
Norway	Norwegian Krone	9.8741	-0.0351	10.2754	-0.0396	11.9416	-0.0882
Pakistan	Pakistani Rupee	223.5000	-0.5000	232.5848	-0.5883	270.2997	-1.6374
Peru	Peruvian Nuevo Sol	3.8751	0.0244	4.0326	0.0242	4.6865	0.0118
Philippines	Philippine Peso	56.6800	-0.0900	58.9839	-0.1109	68.5485	-0.3706

Nov 25	Currency	DOLLAR Closing Mid	Day's Change	EURO Closing Mid	Day's Change	POUND Closing Mid	Day's Change
Poland	Polish Zloty	4.5077	-0.0031	4.6910	-0.0045	5.4516	-0.0245
Romania	Romanian Leu	4.7279	0.0008	4.9201	-0.0006	5.7180	-0.0208
Russia	Russian Ruble	60.9250	0.1250	63.4015	0.1116	73.6824	-0.1291
Saudi Arabia	Saudi Riyal	3.7578	0.0000	3.9105	-0.0012	4.5446	-0.0174
Singapore	Singapore Dollar	1.3762	0.0014	1.4321	0.0010	1.6643	-0.0047
South Africa	South African Rand	17.1150	0.1000	17.8107	0.0989	20.6988	0.0425
South Korea	South Korean Won	1323.6000	-4.5500	1377.4014	-5.1378	1600.7548	-11.6257
Sweden	Swedish Krona	10.4235	0.0272	10.8472	0.0252	12.6061	-0.0150
Switzerland	Swiss Franc	0.9466	0.0029	0.9851	0.0027	1.1448	-0.0008
Taiwan	New Taiwan Dollar	30.8830	-0.1445	32.1383	-0.1598	37.3497	-0.3178
Thailand	Thai Baht	35.8325	0.0600	37.2890	0.0516	43.3356	-0.0924
Tunisia	Tunisian Dinar	3.2172	-0.0081	3.3480	-0.0094	3.8909	-0.0247
Turkey	Turkish Lira	18.6350	0.0050	19.3925	-0.0004	22.5371	-0.0798
United Arab Emirates	UAE Dirham	3.6731	-	3.8224	-0.0011	4.4422	-0.0169
United Kingdom	Pound Sterling	0.8269	0.0031	0.8605	0.0030	-	-
..One Month		0.8270	0.0031	0.8604	0.0030	-	-

Nov 25	Currency	DOLLAR Closing Mid	Day's Change	EURO Closing Mid	Day's Change	POUND Closing Mid	Day's Change
..Three Month		0.8272	0.0031	0.8601	0.0030	-	-
..One Year		0.8277	0.0032	0.8589	0.0030	-	-
United States	United States Dollar	-	-	1.0406	-0.0003	1.2094	-0.0046
..One Month		-	-	1.0404	-0.1734	1.2095	-0.0046
..Three Month		-	-	1.0399	-0.1733	1.2097	-0.0046
..One Year		-	-	1.0380	-0.1734	1.2102	-0.0046
Vietnam	Vietnamese Dong	24770.0000	-68.0000	25776.8498	-78.3096	29956.7126	-196.7384
European Union	Euro	0.9609	0.0003	-	-	1.1622	-0.0041
..One Month		0.9607	0.0003	-	-	1.1620	-0.0041
..Three Month		0.9602	0.0003	-	-	1.1618	-0.0041
..One Year		0.9583	0.0003	-	-	1.1606	-0.0041

Rates are derived from WM Reuters Spot Rates and MorningStar (latest rates at time of production). Some values are rounded. Currency redenominated by 1000. The exchange rates printed in this table are also available at www.FT.com/marketsdata

FTSE ACTUARIES SHARE INDICES

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	£ Strlg Nov 25	Day's chge%	Euro Index	£ Strlg Nov 24	£ Strlg Nov 23	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	7486.67	0.27	6785.20	7466.60	7465.24	7310.37	3.63	1.63	16.94	264.38	7684.48
FTSE 250 (250)	19545.70	0.03	17714.34	19540.34	19500.50	23279.96	3.07	0.71	45.62	511.59	16238.85
FTSE 250 ex Inv Co (173)	20125.03	-0.06	18239.39	20136.27	20053.33	24088.33	3.16	1.24	25.59	538.48	17056.81
FTSE 350 (350)	4152.24	0.23	3763.19	4142.60	4140.69	4187.39	3.55	1.51	18.69	140.90	8455.96
FTSE 350 ex Investment Trusts (270)	4089.31	0.23	3706.16	4079.86	4077.33	4076.10	3.60	1.68	16.56	141.20	4304.00
FTSE 350 Higher Yield (132)	3563.28	0.35	3229.42	3550.96	3552.49	3277.35	5.00	1.74	11.51	162.26	8186.85
FTSE 350 Lower Yield (218)	4320.63	0.11	3915.80	4315.68	4309.72	4866.33	2.04	0.93	52.91	90.49	5318.17
FTSE SmallCap (236)	6243.19	0.33	5658.23	6222.48	6201.21	7405.60	3.43	0.13	219.75	195.73	10487.02
FTSE SmallCap ex Inv Co (126)	5045.54	0.86	4572.79	5002.56	4977.04	6157.62	3.57	2.36	11.87	148.53	8806.76
FTSE All-Share (586)	4112.31	0.24	3727.00	4102.66	4100.46	4167.28	3.54	1.48	19.13	139.24	8456.61
FTSE All-Share ex Inv Co (396)	4015.49	0.24	3639.25	4005.87	4003.14	4015.34	3.60	1.69	16.47	138.36	4290.93
FTSE All-Share ex Multinationals (523)	1097.14	-0.03	824.51	1097.44	1092.91	1340.96	3.84	0.89	29.31	38.78	2334.21
FTSE Fledgling (82)	11517.54	0.28	10438.39	11485.47	11506.14	13483.44	3.77	4.47	5.93	347.88	24936.59
FTSE Fledgling ex Inv Co (32)	14954.17	0.71	13553.02	14848.17	14915.88	18074.37	3.48	7.77	3.69	448.06	31439.00
FTSE All-Small (318)	4351.55	0.33	3943.82	4337.24	4323.65	5158.23	3.45	0.39	73.93	136.20	9375.52
FTSE All-Small ex Inv Co (158)	3793.45	0.85	3438.02	3761.34	3743.46	4628.02	3.57	2.55	11.00	111.76	8385.97
FTSE AIM All-Share (757)	847.07	0.32	767.70	844.39	840.30	1203.96	1.63	1.78	34.48	12.68	995.09
FTSE All-Share Technology (21)	2046.33	-0.29	1703.65	2052.20	2056.63	2336.16	1.87	0.89	59.88	39.63	2964.06
FTSE All-Share Telecommunications (6)	1548.17	0.49	1288.91	1540.59	1553.89	1849.92	6.84	1.03	14.20	98.30	2365.83
FTSE All-Share Health Care (14)	14232.94	0.50	11849.43	14162.15	14222.13	12864.69	2.64	1.05	36.12	374.42	13182.46
FTSE All-Share Financials (254)	4547.53	0.20	3785.98	4538.58	4529.18	4968.17	3.71	1.04	25.99	161.32	5055.88
FTSE All-Share Real Estate (55)	855.15	-1.07	744.77	864.36	855.05	1225.31	4.09	3.76	6.49	32.01	900.14
FTSE All-Share Consumer Discretionary (84)	4622.96	0.15	3848.78	4616.26	4603.70	5442.92	2.33	1.11	38.78	102.72	4898.55
FTSE All-Share Consumer Staples (24)	19700.75	0.29	16401.58	19643.10	19688.86	19388.12	3.87	1.13	22.77	692.42	18064.44
FTSE All-Share Industrials (83)	6415.72	0.41	5341.31	6389.47	6378.89	7316.78	2.24	1.30	34.39	135.18	7426.86
FTSE All-Share Basic Materials (22)	8970.21	-0.56	7468.02	9021.08	8939.04	7947.21	6.06	2.00	8.25	536.92	12226.04
FTSE All-Share Energy (13)	8591.62	0.98	7152.83	8508.43	8539.84	6090.63	3.50	2.74	10.42	302.44	10453.53
FTSE All-Share Utilities (10)	8689.04	-0.34	7233.94	8718.46	8723.60	8432.15	4.42	0.56	40.19	361.80	13231.13
FTSE All-Share Software and Computer Services (18)	2207.79	-0.42	1838.07	2217.12	2214.19	2513.05	1.88	0.88	60.41	43.04	3383.63
FTSE All-Share Technology Hardware and Equipment (3)	5203.07	3.25	4331.74	5039.46	5509.39	6445.02	1.71	1.19	49.10	78.21	6724.54
FTSE All-Share Telecommunications Equipment (1)	632.17	-0.07	526.30	632.61	634.85	630.29	1.94	2.31	22.27	11.51	903.63
FTSE All-Share Telecommunications Service Providers (5)	2373.55	0.52	1976.07	2361.30	2382.27	2855.85	7.07	1.01	13.96	155.61	3305.80
FTSE All-Share Health Care Providers (3)	11046.72	0.70	9196.79	10969.46	10995.55	8309.65	0.53	4.88	38.81	58.27	10253.14
FTSE All-Share Medical Equipment and Services (2)	5553.07	1.00	4623.13	5497.89	5454.88	5980.90	2.57	0.97	40.30	142.76	5364.06
FTSE All-Share Pharmaceuticals and Biotechnology (9)	20324.83	0.47	16921.15	20229.78	20329.29	18213.84	2.67	1.04	35.89	539.80	16950.71
FTSE All-Share Banks (12)	3155.43	0.32	2627.01	3145.48	3129.90	3035.78	4.12	2.61	9.30	128.47	2792.42
FTSE All-Share Finance and Credit Services (8)	11047.03	0.37	9197.05	11006.08	11175.92	9799.77	1.89	2.05	25.81	208.86	14843.29
FTSE All-Share Investment Banking and Brokerage Services (31)	8766.28	0.03	7298.24	8763.22	8685.40	10713.90	5.03	1.52	13.03	387.97	12311.81
FTSE All-Share Closed End Investments (190)	11799.74	0.16	9823.71	11780.54	11799.93	14434.71	2.66	-2.76	-13.64	291.14	7387.92
FTSE All-Share Life Insurance (6)	6714.57	-0.16	5590.12	6725.32	6700.13	8139.91	4.56	1.08	20.27	294.59	8216.93
FTSE All-Share Nonlife Insurance (7)	3669.85	0.54	3055.28	3650.11	3630.83	3558.62	3.90	1.24	20.68	130.27	7815.46
FTSE All-Share Real Estate Investment and Services (10)	2152.50	-1.24	1792.03	2179.52	2150.51	3041.24	2.34	4.11	10.40	41.03	6418.36
FTSE All-Share Real Estate Investment Trusts (45)	2126.90	-1.03	1770.72	2149.13	2126.97	3050.00	4.41	3.73	6.08	87.45	3227.44
FTSE All-Share Automobiles and Parts (2)	1334.83	-1.30	1111.29	1352.41	1351.91	3754.87	0.73	-53.35	-2.57	14.02	1388.67
FTSE All-Share Consumer Services (2)	3031.90	0.69	2524.17	3011.09	3001.33	2627.88	1.26	2.58	30.71	38.43	3845.96
FTSE All-Share Household Goods and Home Construction (12)	8602.40	-0.13	7161.80	8613.50	8542.04	14438.52	8.65	1.60	7.21	665.58	7699.88
FTSE All-Share Leisure Goods (2)	20460.67	0.12	17034.24	20436.22	20414.76	22899.04	3.30	1.59	19.00	831.45	22866.43
FTSE All-Share Personal Goods (4)	28628.02	-0.18	23833.85	28679.17	29624.53	31367.54	1.81	2.94	18.83	402.68	22391.56
FTSE All-Share Media (11)	9563.68	0.23	7962.10	9541.99	9526.59	9890.06	2.32	1.45	29.72	221.42	6729.03
FTSE All-Share Retailers (22)	1933.11	-0.47	1609.38	1942.31	1944.91	2804.42	2.62	3.59	10.62	47.84	2514.24
FTSE All-Share Travel and Leisure (29)	6441.10	0.28	5362.44	6423.19	6356.05	7589.04	0.63	-9.54	-16.53	40.81	6662.00
FTSE All-Share Beverages (5)	28812.71	0.41	23987.61	28695.38	28746.43	30306.36	2.08	2.00	24.01	584.47	23091.01
FTSE All-Share Food Producers (10)	5990.28	2.25	4987.12	5858.62	5814.91	6726.96	2.30	2.55	17.03	95.89	5779.55
FTSE All-Share Tobacco (2)	36479.92	0.92	30370.84	36145.60	36676.46	28158.49	6.50	0.87	17.71	1906.82	34262.62
FTSE All-Share Construction and Materials (15)	7368.48	0.45	6134.52	7335.64	7320.79	8819.06	3.13	0.64	49.53	230.56	8991.03
FTSE All-Share Aerospace and Defense (7)	5154.36	0.72	4291.19	5117.60	5089.13	4587.76	2.29	0.11	397.43	104.10	6286.74
FTSE All-Share Electronic and Electrical Equipment (10)	11102.71	0.23	9243.40	11076.71	11079.41	13763.44	1.58	2.11	29.95	159.06	10978.61
FTSE All-Share General Industrials (8)	5092.33	0.55	4239.54	5064.35	5076.66	5593.48	2.81	1.16	30.66	142.00	6726.14
FTSE All-Share Industrial Engineering (5)	16403.13	0.40	13656.19	16338.23	16511.55	20120.88	1.59	2.01	31.24	261.52	22033.84
FTSE All-Share Industrial Support Services (30)	10063.19	0.16	8377.97	10046.96	9993.90	11976.59	1.91	1.67	31.41	193.76	11587.17
FTSE All-Share Industrial Transportation (8)	5608.85	0.61	4669.57	5574.80	5577.94	7152.66	2.08	2.82	17.03	98.14	5876.60
FTSE All-Share Industrial Materials (1)	15902.97	0.32	502.98	15852.96	16253.03	21954.10	2.07	1.81	26.73	329.06	20087.82
FTSE All-Share Industrial Metals and Mining (9)	8058.22	-0.55	6708.76	8102.63	8029.75	6557.40	6.48	2.01	7.67	517.27	12369.15
FTSE All-Share Precious Metals and Mining (5)	10206.82	-0.82	8497.55	10291.64	10191.22	19738.31	3.51	1.83	15.62	358.99	7196.16
FTSE All-Share Chemicals (7)	13391.85	-0.64	11149.19	13477.81	13340.64	18343.84	2.65	1.80	20.94	324.25	13421.92
FTSE All-Share Oil. Gas and Coal (12)	8340.46	0.98	6943.73	8259.70	8290.18	5910.89	3.50	2.74	10.42	293.60	10524.30
FTSE Sector Indices											
Non Financials (332)	**5037.31**	**0.25**	**4565.33**	**5024.95**	**5024.45**	**4993.64**	**3.50**	**1.61**	**17.80**	**168.33**	**9115.48**

Hourly movements	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High/day	Low/day
FTSE 100	7409.36	7431.42	7445.46	7429.00	7414.69	7422.73	7432.57	7441.08	7454.57	7458.45	7406.19
FTSE 250	19411.12	19403.31	19467.76	19478.93	19422.99	19408.20	19403.02	19419.06	19450.27	19493.42	19345.70
FTSE SmallCap	6179.80	6186.70	6192.10	6184.66	6178.28	6177.27	6170.30	6162.39	6173.74	6195.78	6162.39
FTSE All-Share	4071.93	4081.84	4090.31	4083.03	4074.69	4077.88	4082.08	4086.32	4093.61	4094.95	4070.64

Time of FTSE 100 Day's high:15:50:15 Day's Low08:04:45 FTSE 100 2010/11 High: 7672.40(10/02/2022) Low: 6826.15(12/10/2022)
Time of FTSE All-Share Day's high:15:51:00 Day's Low08:05:00 FTSE 100 2010/11 High: 4296.96(10/02/2022) Low: 3712.50(12/10/2022)

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FT 30 INDEX

	Nov 25	Nov 24	Nov 23	Nov 22	Nov 21	Yr Ago	High	Low
FT 30	2533.50	2528.70	2515.50	2498.00	2491.00	0.00	2880.10	2152.10
FT 30 Div Yield	-	-	-	-	-	0.00	3.93	2.74
P/E Ratio net	-	-	-	-	-	0.00	19.44	14.26

FT 30 hourly changes

8	9	10	11	12	13	14	15	16	High	Low
2528.7	2525.4	2525.8	2533.2	2531.5	2528	2523.7	2525.5	2529.5	2535.6	2515.7

FT30 constituents and recent additions/deletions can be found at www.ft.com/ft30

FT WILSHIRE 5000 INDEX SERIES

	Nov 23		Nov 23
FT Wilshire 5000	40833.88	FT Wilshire Mid Cap	5538.19
FT Wilshire 2500	5229.15	FT Wilshire Small Cap	4994.55
FT Wilshire Mega Cap	5203.29	FT Wilshire Micro Cap	4834.03
FT Wilshire Large Cap	5259.07		

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FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

Oil & Gas Producers	45.48	Consumer Goods	-2.47	Support Services	-16.89
Oil & Gas	44.86	Health Care Eq & Srv	-2.59	Mobile Telecomms	-17.17
Tobacco	24.55	Nonlife Insurance	-6.61	Equity Invest Instr	-17.24
Mining	17.04	Media	-7.05	Telecommunications	-17.41
Aerospace & Defense	16.68	Software & Comp Serv	-7.26	Construct & Material	-18.26
Basic Materials	9.23	Technology	-7.45	Fixed Line Telecomms	-18.39
Pharmace & Biotech	8.65	Travel & Leisure	-7.54	Industrial Eng	-19.27
Health Care	7.89	Beverages	-7.69	Leisure Goods	-19.42
Banks	4.84	Tech Hardware & Eq	-9.11	Electronic & Elec Eq	-24.55
Electricity	4.68	Oil Equipment & Serv	-9.57	Household Goods & Ho	-24.88
Personal Goods	2.88	Financial Services	-10.23	Chemicals	-27.30
FTSE 100 Index	1.38	Financials	-10.94	Food & Drug Retailer	-29.24
Beverages	31.66	Food Producers	-13.35	General Retailers	-29.94
Utilities	-0.22	Industrials	-13.38	Real Est Invest & Tr	-31.21
NON FINANCIALS Index	-0.68	Life Insurance	-13.69	Real Est Invest & Se	-31.75
Gas Water & Multi	-1.86	Consumer Services	-14.75	Industrial Transport	-37.79
FTSE All{HY-}Share Index	-2.27	FTSE SmallCap Index	-16.30	Automobiles & Parts	-63.39
		FTSE 250 Index	-16.76	Industrial Metals &	-78.64

FTSE 100 SUMMARY

FTSE 100	Closing Price	Day's Change	FTSE 100	Closing Price	Day's Change
3I Group PLC	1357	-0.50	International Consolidated Airlines Group S.A.	134.14	-0.26
Admiral Group PLC	2128	21.00	Intertek Group PLC	4027	-9.00
Airtel Africa PLC	122.30	1.70	Jd Sports Fashion PLC	124.55	-1.15
Anglo American PLC	3204	-24.50	Kingfisher PLC	247.70	-1.80
Antofagasta PLC	1341	-19.50	Land Securities Group PLC	632.00	0.20
Ashtead Group PLC	5086	36.00	Legal & General Group PLC	260.90	-
Associated British Foods PLC	1589.5	6.50	Lloyds Banking Group PLC	46.31	0.37
Astrazeneca PLC	10954	30.00	London Stock Exchange Group PLC	8116	36.00
Auto Trader Group PLC	577.40	-9.60	M&G PLC	194.70	0.05
Aveva Group PLC	3191	8.00	Melrose Industries PLC	134.55	0.80
Aviva PLC	456.60	1.50	Mondi PLC	1571.5	12.00
B&M European Value Retail S.A.	410.40	-0.50	National Grid PLC	1019.5	3.50
Bae Systems PLC	806.80	9.00	Natwest Group PLC	256.00	-2.70
Barclays PLC	159.06	-0.36	Next PLC	5752	6.00
Barratt Developments PLC	407.50	2.30	Ocado Group PLC	649.80	-13.60
Berkeley Group Holdings (The) PLC	3844	14.00	Pearson PLC	979.00	-7.40
BP PLC	488.35	4.80	Pershing Square Holdings LTD	2915	-15.00
British American Tobacco PLC	3355.5	28.00	Persimmon PLC	1328.5	3.00
British Land Company PLC	405.70	-0.30	Phoenix Group Holdings PLC	609.80	5.00
Bt Group PLC	126.90	0.75	Prudential PLC	943.40	-7.20
Bunzl PLC	3100	20.00	Reckitt Benckiser Group PLC	5900	4.00
Burberry Group PLC	2113	19.00	Relx PLC	2325	14.00
Centrica PLC	93.94	-1.88	Rentokil Initial PLC	548.20	2.20
Coca-Cola Hbc AG	2044	6.00	Rightmove PLC	561.20	-8.40
Compass Group PLC	1841	12.50	Rio Tinto PLC	5379	-28.00
Convatec Group PLC	231.40	0.40	Rolls-Royce Holdings PLC	90.85	-0.20
Crh PLC	3333	11.00	Rs Group PLC	941.50	-16.50
Croda International PLC	6938	-14.00	Sage Group PLC	812.60	-0.80
Dcc PLC	4448	10.00	Sainsbury (J) PLC	225.20	-0.90
Dechra Pharmaceuticals PLC	2762	6.00	Schroders PLC	461.70	-3.00
Diageo PLC	3762.5	13.50	Scottish Mortgage Investment Trust PLC	769.20	7.00
Endeavour Mining PLC	1683	-30.00	Segro PLC	828.00	-9.20
Entain PLC	1406.5	-2.00	Severn Trent PLC	2819	-17.00
Experian PLC	2945	7.00	Shell PLC	2367	24.50
F&C Investment Trust PLC	919.00	-1.00	Smith & Nephew PLC	1103.5	14.50
Flutter Entertainment PLC	11795	-25.00	Smith (Ds) PLC	308.40	-0.20
Frasers Group PLC	888.00	10.00	Smiths Group PLC	1615.5	7.00
Fresnillo PLC	895.40	-4.20	Smurfit Kappa Group PLC	3053	19.00
Glaxosmithkline PLC	1392.4	12.40	Spirax-Sarco Engineering PLC	11405	45.00
Glencore PLC	533.80	-2.20	Sse PLC	1725	-7.50
Haleon PLC	289.00	2.15	St. James's Place PLC	1177	-1.00
Halma PLC	2269	3.00	Standard Chartered PLC	590.00	0.60
Harbour Energy PLC	309.90	-4.00	Taylor Wimpey PLC	104.00	-1.05
Hargreaves Lansdown PLC	863.60	0.20	Tesco PLC	235.00	-2.60
Homeserve PLC	1192	1.00	Unilever PLC	4113.5	-6.50
HSBC Holdings PLC	491.95	2.45	Unite Group PLC	950.00	-6.00
Imperial Brands PLC	2126	26.00	United Utilities Group PLC	1064.5	-21.50
Informa PLC	608.80	-3.80	Vodafone Group PLC	93.06	0.39
Intercontinental Hotels Group PLC	4787	28.00	Whitbread PLC	2632	17.00
Intermediate Capital Group PLC	1232	0.50	Wpp PLC	876.60	3.40

FTSE GLOBAL EQUITY INDEX SERIES

Nov 25 Regions & countries	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
FTSE Global All Cap	9516	702.65	0.5	9.1	-17.0	1125.94	-15.3	2.3
FTSE Global All Cap	9516	702.65	0.5	9.1	-17.0	1125.94	-15.3	2.3
FTSE Global Large Cap	1907	628.21	0.5	8.6	-17.3	1037.72	-15.5	2.3
FTSE Global Mid Cap	2262	909.25	0.5	10.7	-15.2	1370.48	-13.5	2.2
FTSE Global Small Cap	5347	935.56	0.5	9.7	-18.3	1348.05	-16.8	2.1
FTSE All-World	4169	412.90	0.5	9.0	-16.9	700.71	-15.2	2.3
FTSE World	2663	751.39	0.4	9.0	-16.3	1711.18	-14.6	2.3
FTSE Global All Cap ex UNITED KINGDOM In	9226	741.86	0.5	8.8	-17.3	1165.92	-15.6	2.2
FTSE Global All Cap ex USA	7706	493.35	1.2	13.8	-17.8	877.28	-15.2	3.3
FTSE Global All Cap ex JAPAN	8111	732.88	0.4	8.7	-17.1	1184.77	-15.4	2.3
FTSE Global All Cap ex Eurozone	8853	744.00	0.4	8.5	-16.9	1166.24	-15.2	2.2
FTSE Developed	2179	689.91	0.4	8.8	-16.4	1112.95	-14.8	2.1
FTSE Developed All Cap	5827	719.01	0.4	8.9	-16.5	1142.72	-14.9	2.1
FTSE Developed Large Cap	834	646.66	0.4	8.3	-16.6	1061.81	-15.0	2.1
FTSE Developed Europe Large Cap	220	382.09	0.7	14.9	-15.0	757.28	-12.3	3.2
FTSE Developed Europe Mid Cap	355	577.42	1.3	18.0	-25.1	993.13	-23.0	3.0
FTSE Dev Europe Small Cap	746	812.77	1.1	17.9	-26.4	1342.52	-24.4	3.1
FTSE North America Large Cap	234	864.76	0.0	5.5	-17.1	1299.15	-15.9	1.7
FTSE North America Mid Cap	422	1136.52	0.0	8.8	-13.1	1578.56	-11.7	1.8
FTSE North America Small Cap	1334	1117.86	0.1	7.8	-15.3	1488.27	-14.1	1.6
FTSE North America	656	566.85	0.0	6.2	-16.3	870.61	-15.1	1.7
FTSE Developed ex North America	1523	263.34	1.2	15.3	-16.5	504.33	-14.0	3.1
FTSE Japan Large Cap	169	380.20	2.2	15.5	-16.6	558.93	-14.5	2.5
FTSE Japan Mid Cap	340	531.16	2.0	13.6	-13.5	741.51	-11.3	2.5
FTSE Global wi JAPAN Small Cap	896	592.58	2.3	14.1	-14.8	858.96	-12.5	2.7
FTSE Japan	509	156.27	2.2	15.1	-16.0	257.23	-13.9	2.5
FTSE Asia Pacific Large Cap ex Japan	1088	658.65	1.3	14.8	-21.0	1200.79	-18.7	3.2
FTSE Asia Pacific Mid Cap ex Japan	867	941.85	1.4	13.1	-16.9	1655.47	-14.4	3.5
FTSE Asia Pacific Small Cap ex Japan	2114	533.86	1.5	11.8	-26.7	911.32	-24.6	3.1
FTSE Asia Pacific Ex Japan	1955	524.86	1.3	14.6	-20.6	1016.95	-18.3	3.3
FTSE Emerging All Cap	3689	692.47	1.2	10.5	-21.4	1207.92	-18.7	3.8
FTSE Emerging Large Cap	1073	637.26	1.2	11.0	-22.6	1118.02	-20.0	3.8
FTSE Emerging Mid Cap	917	1014.64	1.3	9.0	-11.7	1780.51	-8.6	4.0
FTSE Emerging Small Cap	1699	750.78	1.4	8.2	-22.5	1252.76	-20.0	3.4
FTSE Emerging Europe	111	118.88	0.9	16.9	-71.3	248.64	-70.1	2.8
FTSE Latin America All Cap	262	722.30	2.7	-0.4	1.9	1430.12	10.7	11.5
FTSE Middle East and Africa All Cap	329	757.24	0.0	2.5	-4.9	1386.84	-2.1	3.2
FTSE Global wi UNITED KINGDOM All Cap In	290	318.86	0.7	15.2	-11.4	652.40	-8.3	3.6
FTSE Global wi USA All Cap	1810	972.58	0.0	6.1	-16.6	1408.35	-15.4	1.6
FTSE Europe All Cap	1461	433.41	0.8	15.6	-19.0	824.59	-16.6	3.1
FTSE Eurozone All Cap	663	418.93	0.9	16.7	-19.2	790.91	-16.7	3.1
FTSE EDHEC-Risk Efficient All-World	4169	473.59	0.5	10.3	-13.3	745.76	-11.2	2.6
FTSE EDHEC-Risk Efficient Developed Europe	575	317.62	1.2	17.0	-23.1	558.73	-20.8	3.2
Oil & Gas	131	424.82	0.4	6.5	29.6	871.95	35.9	4.5
Oil & Gas Producers	87	423.23	0.3	5.5	33.2	892.56	40.2	4.8

Nov 25 Sectors	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
Oil Equipment & Services	24	288.78	0.3	8.7	23.4	535.16	28.3	4.1
Basic Materials	393	610.94	1.1	14.6	-9.2	1124.87	-5.3	4.7
Chemicals	195	822.61	1.0	13.1	-15.1	1454.23	-12.8	3.0
Forestry & Paper	20	258.39	0.6	7.0	-15.3	521.70	-12.6	3.8
Industrial Metals & Mining	98	495.44	0.8	15.6	-10.4	949.01	-5.7	7.5
Mining	80	962.27	1.3	17.2	3.4	1876.55	9.8	6.0
Industrials	803	503.86	0.7	13.1	-16.1	803.94	-14.5	2.0
Construction & Materials	154	576.79	0.8	15.3	-22.0	971.37	-20.3	2.2
Aerospace & Defense	35	886.01	0.1	8.2	10.3	1382.74	11.9	1.5
General Industrials	76	244.66	0.4	15.5	-11.8	432.64	-9.6	2.5
Electronic & Electrical Equipment	157	636.96	1.2	15.9	-20.8	915.60	-19.5	1.5
Industrial Engineering	158	1010.87	0.6	17.1	-12.6	1607.30	-10.9	1.9
Industrial Transportation	133	930.24	0.6	12.7	-16.3	1512.50	-13.7	3.3
Support Services	90	532.94	0.7	8.3	-25.0	793.10	-24.0	1.5
Consumer Goods	569	555.59	0.5	9.0	-19.4	934.01	-17.8	2.4
Automobiles & Parts	132	507.97	0.5	2.2	-34.3	821.71	-33.2	2.0
Beverages	72	775.93	0.3	9.0	-3.7	1316.21	-2.0	2.2
Food Producers	134	730.33	0.3	9.1	-7.0	1259.60	-4.9	2.4
Household Goods & Home Construction	65	527.94	0.4	13.3	-19.3	890.08	-17.2	2.7
Leisure Goods	53	240.27	1.7	12.6	-24.5	339.74	-23.6	1.4
Personal Goods	98	898.54	0.6	15.5	-22.2	1382.78	-20.9	1.9
Tobacco	15	990.52	-0.1	8.4	3.0	2804.64	7.8	6.1
Health Care	343	724.55	0.3	7.3	-8.2	1155.03	-6.7	1.7
Health Care Equipment & Services	133	1374.77	0.3	5.3	-17.4	1685.85	-16.7	1.0
Pharmaceuticals & Biotechnology	210	491.62	0.3	8.6	-1.1	842.97	1.2	2.2
Consumer Services	427	533.15	0.3	4.8	-24.3	761.12	-23.5	1.2
Food & Drug Retailers	69	326.12	0.4	10.0	-5.3	518.79	-3.1	2.3
General Retailers	141	931.47	0.2	1.7	-27.1	1272.50	-26.6	1.0
Media	75	304.71	0.3	6.2	-35.1	437.97	-34.4	1.3
Travel & Leisure	142	447.23	0.4	9.7	-12.8	652.78	-11.9	1.1
Telecommunication	89	132.51	0.6	9.2	-10.6	312.42	-7.1	4.2
Fixed Line Telecommuniations	31	103.60	0.6	8.0	-8.1	280.32	-3.8	5.1
Mobile Telecommunications	58	156.54	0.6	9.8	-11.9	318.15	-8.9	3.8
Utilities	200	320.70	0.6	11.3	-6.6	750.59	-3.7	3.3
Electricity	142	362.90	0.6	9.8	-5.9	836.05	-3.2	3.2
Gas Water & Multiutilities	58	316.69	0.5	15.1	-8.2	768.00	-5.0	3.6
Financials	853	264.51	0.6	11.4	-11.8	508.49	-9.3	3.1
Banks	270	202.75	0.7	8.8	-10.4	434.66	-6.9	4.1
Nonlife Insurance	71	362.51	0.4	11.0	3.4	604.94	6.3	2.8
Life Insurance	51	218.17	0.7	15.3	-9.7	420.97	-6.1	4.0
Financial Services	211	439.83	0.3	13.3	-11.9	667.77	-10.5	1.7
Technology	361	474.13	0.3	6.9	-30.1	618.89	-29.5	1.1
Software & Computer Services	185	701.39	0.2	2.5	-34.4	848.72	-34.0	0.7
Technology Hardware & Equipment	176	429.27	0.4	11.8	-25.1	602.92	-24.1	1.5
Alternative Energy	20	192.44	1.3	24.8	-7.7	276.14	-7.3	0.4
Real Estate Investment & Services	142	251.51	2.2	13.7	-23.6	490.33	-21.4	3.1
Real Estate Investment Trusts	108	448.55	0.4	12.7	-24.8	1048.56	-22.6	3.8
FTSE Global Large Cap	1907	628.21	0.5	8.6	-17.3	1037.72	-15.5	2.3

The FTSE Global Equity Series, launched in 2003, contains the FTSE Global Small Cap Indices and broader FTSE Global All Cap Indices (large/mid/small cap) as well as the enhanced FTSE All-World index Series (large/mid cap) - please see https://research.ftserussell.com/Products/indices/Home/indexfiltergeis?indexName=GEISAC&currency=USD&rtn=CAP&segment=global-developed--emerging. The trade names Fundamental Index® and RAFI® are registered trademarks and the patented and patent-pending proprietary intellectual property of Research Affiliates, LLC (US Patent Nos. 7,620,577; 7,747,502; 7,778,905; 7,792,719; Patent Pending Publ. Nos. US-2006-0149645-A1, US-2007-0055598-A1, US-2008-0288416-A1, US-2010- 0063942-A1, WO 2005/076812, WO 2007/078399 A2, WO 2008/118372, EPN 1733352, and HK1099110). "EDHEC™" is a trade mark of EDHEC Business School As of January 2nd 2006, FTSE is basing its sector indices on the Industrial Classification Benchmark - please see www.ftse.com/icb. For constituent changes and other information about FTSE, please see www.ftse.com. © FTSE International Limited. 2013. All Rights reserved. "FTSE®" is a trade mark of the London Stock Exchange Group companies and is used by FTSE International Limited under licence.

UK STOCK MARKET TRADING DATA

	Nov 25	Nov 24	Nov 23	Nov 22	Nov 21	Yr Ago
Order Book Turnover (m)	47.06	360.52	180.43	288.42	494.08	494.08
Order Book Bargains	491480.00	622233.00	670425.00	650610.00	613561.00	613561.00
Order Book Shares Traded (m)	1069.00	1236.00	1067.00	1158.00	1286.00	1286.00
Total Equity Turnover (£m)	4258.00	5457.09	9426.35	4737.72	4888.35	4888.35
Total Mkt Bargains	638327.00	792155.00	841689.00	830728.00	795628.00	795628.00
Total Shares Traded (m)	6459.00	7760.00	5779.00	6395.00	7937.00	7937.00

† Excluding intra-market and overseas turnover. *UK only total at 6pm. ‡ UK plus intra-market turnover. (u) Unavaliable. (c) Market closed.

All data provided by Morningstar unless otherwise noted. All elements listed are indicative and believed accurate at the time of publication. No offer is made by Morningstar or the FT. The FT does not warrant nor guarantee that the information is reliable or complete. The FT does not accept responsibility and will not be liable for any loss arising from the reliance on or use of the listed information.
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UK RIGHTS OFFERS

Issue price	Amount paid up	Latest renun. date	High	Low	Stock	closing Price p	+or-

There are currently no rights offers by any companies listed on the LSE.

UK COMPANY RESULTS

Company		Turnover		Pre-tax		EPS(p)		Div(p)		Pay day	Total	
Anglesey Mining	Int	**0.000**	0.000	**0.469L**	0.298L	**0.200L**	0.100L	**0.00000**	0.00000	-	**0.000**	0.000
British Smaller Companies VCT	Int			**2.425**	24.924	**1.300**	17.120	**2.00000**	5.00000	Oct 3	**2.000**	7.000
Caffyns	Int	**118.992**	110.785	**1.558**	2.295	**47.000**	69.900	**7.50000**	7.50000	Jan 9	**22.500**	7.500
CT Private Equity Trust	3rd			**62.525**	84.579	**85.050**	114.390	**6.62000**	5.27000	Jan 31	**24.630**	18.550
HICL Infrastructure	Int			**102.600**	139.500	**5.200**	7.200	**2.06000**	2.06000	Dec 30	**2.060**	2.060
JPMorgan European Investment Trust	Int			**39.681L**	38.784		37.410	**1.00000**	2.50000	Oct 14	**2.100**	5.700
Montanaro UK Smaller Companies Inv Tr	Int			**48.081L**	45.501	**28.730L**	27.180	**1.04000**	1.73000	Nov 11	**1.040**	3.220
Northern Bear	Int	**33.951**	29.973	**1.361**	1.414	**6.000**	6.100	**0.00000**	0.00000	-	**0.000**	0.000
Plexus Holdings	Pre	**2.306**	2.017	**5.556L**	4.372L	**0.000**	0.000	**0.00000**	0.00000	-	**0.000**	0.000

Figures in £m. Earnings shown basic. Figures in light text are for corresponding period year earlier.
For more information on dividend payments visit www.ft.com/marketsdata

UK RECENT EQUITY ISSUES

Issue date	Issue price(p)	Sector	Stock code	Stock	Close price(p)	+/-	High	Low	Mkt Cap (£m)
11/09	250.00		ITH	Ithaca Energy PLC	195.00	-2.60	254.90	190.20	196006.6
10/31	4.00		BWN	Bowen Fintech PLC	6.25	0.25	6.00	5.90	343.8
10/27	10.00		UMR	Unicorn Mineral Resource PLC	18.50	0.00	19.50	10.00	513.5
10/24	1.00		ATN	Eastinco Mining and Exploration PLC	0.95	0.00	1.00	0.90	916.5
10/21	55.00	AIM	SND	Sondrel (Holdings) PLC	60.00	-0.45	62.00	51.67	5247.7

§Placing price. *Intoduction. ‡When issued. Annual report/prospectus available at www.ft.com/ir
For a full explanation of all the other symbols please refer to London Share Service notes.

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

Stock	Price	+/-Week	52 Week High	52 Week Low	Yld	P/E	MCap m
Australia (A$)							
ANZ Bank	24.82	0.51	28.33	20.78	5.85	10.81	50102.5
BHP Group	44.20	0.40	53.72	35.83	8.95	10.79	151000.95
CmwBkAu	109.20	3.56	109.20	86.98	3.08	21.34	124631.01
CSL	299.72	6.39	316.98	240.10	0.97	44.59	97536.01
NatAusBk	31.49	0.89	33.75	25.43	2.74	17.43	66996.8
Telstra	4.00	0.12	4.20	3.62	2.40	33.81	31190.02
Wesfarmers	49.16	1.93	60.78	40.03	3.48	26.26	37615.88
Westpac Bank	23.99	0.79	24.67	18.80	3.56	18.13	56682.07
Woolworths	35.08	0.65	41.13	31.67	2.96	41.57	28798.55
Belgium (€)							
AnBshInBv	54.57	0.99	58.72	45.56	0.95	27.89	98651.84
KBC Grp	53.24	0.78	81.70	45.53	6.30	8.87	23097.05
Brazil (R$)							
Ambev	15.86	0.24	17.32	12.81	3.68	23.10	46616.39
Bradesco	13.19	-0.07	17.72	12.69	6.52	5.89	11988.74
Cielo	4.79	-0.28	6.22	2.01	3.15	15.64	2428.53
ItauHldFin	22.58	-0.24	26.04	18.86	3.55	8.62	20893.19
Petrobras	27.53	-2.86	42.08	25.53	18.06	3.79	38235.91
Vale	81.53	0.70	107.11	61.90	16.51	3.51	72709.8
Canada (C$)							
Bausch Hlth	9.18	-0.96	36.26	5.10	-	-2.91	2484.16
BCE	64.14	0.77	74.09	55.66	5.16	22.69	43740.52
BkMontrl	132.71	0.44	154.47	113.73	3.22	10.79	67214.09
BkNvaS	71.39	2.35	95.00	63.19	4.91	9.44	63602.37
Brookfield	62.28	2.41	79.04	51.07	1.00	21.82	75437.59
CanadPcR	109.17	4.08	109.85	86.12	0.66	27.63	75933.59
CanImp	65.11	1.55	167.50	55.35	8.72	4.77	44109.47
CanNatRs	80.73	0.78	88.18	48.42	2.34	13.22	66848.18
CanNatRy	171.01	4.52	171.48	137.26	1.36	26.26	86593.72
Enbridge	55.87	1.90	59.69	46.88	5.65	20.59	84596.51
GtWesLif	32.19	0.80	41.50	27.99	5.67	9.56	22430.54
ImpOil	76.66	1.08	79.83	41.04	1.27	23.30	34673.56
Manulife	24.03	0.46	28.09	20.81	4.60	7.18	33930.69
Nutrien	110.86	6.75	147.93	84.37	1.98	16.82	43384.58
RylBkC	135.03	2.33	149.60	116.75	3.12	12.67	139970.94
SHOP	49.08	0.06	212.00	33.00	-	1.79	36653.66
Suncor En	47.57	-0.09	53.62	28.77	2.09	18.17	48165.36
ThmReut	155.85	3.90	156.62	119.23	1.24	11.35	56045.4
TntoDom	91.03	1.61	109.08	77.27	3.39	12.05	123524.37
TrnCan	65.96	1.96	74.44	54.60	4.99	37.51	49914.92
China (HK$)							
AgricBkCh	2.55	0.11	3.15	2.22	8.30	3.36	10026.39
Bk China	2.74	0.08	3.20	2.51	8.06	3.41	29307.94
BkofComm	4.44	0.24	5.74	3.84	7.82	3.69	19884.29
BOE Tech	0.77	0.09	0.86	0.57	-	12.47	19.60
Ch Coms Cons	3.72	0.35	5.17	3.09	5.43	3.10	2102.44
Ch Evrbrght	2.32	0.08	3.11	2.04	10.25	3.15	3762.54
Ch Rail Cons	4.57	0.42	5.95	3.75	5.69	2.44	1213.72
Ch Rail Gp	4.29	0.44	5.88	3.48	4.76	3.47	2308.76
ChConstBk	4.70	0.14	6.23	4.12	7.84	3.43	144536.49
China Vanke	14.84	1.50	21.70	9.96	9.52	6.72	3618.98
ChinaCitic	3.41	0.17	4.08	2.92	8.17	3.18	6491.3
ChinaLife	11.22	0.60	15.04	8.53	6.04	4.93	10679.43
ChinaMBank	36.25	0.80	70.80	25.40	3.91	6.71	21287.18
ChinaMob	51.85	2.00	58.65	45.90	6.16	8.04	135696.43
ChinaPcIns	16.74	0.10	25.90	12.10	7.79	5.48	5942.61
ChMinsheng	2.58	0.10	3.29	2.19	9.46	3.35	2745.78
ChMrchSecs	13.15	-0.25	18.56	12.06	3.45	11.32	13627.02
Chna Utd Coms	4.17	0.52	4.19	3.30	2.78	20.18	18026.94
ChShenEgy	23.60	1.60	27.65	16.06	8.62	7.19	10195.71
ChShpbldng	3.65	0.06	4.33	3.36	-	-261.73	11254.35
ChStConEng	5.74	0.47	6.40	4.63	3.88	4.29	32726.69
ChUncHK	4.13	0.37	4.43	3.27	3.78	9.14	16164.38
CNNC Intl	6.34	0.13	8.92	5.78	2.04	15.98	16686.38
CSR	3.06	0.16	3.76	2.37	6.71	8.45	1710.88
Daqin	6.80	0.29	7.25	5.95	7.32	9.93	14115.12
GuosenSec	9.01	-0.13	11.70	8.43	2.65	9.99	11104.43
HaitongSecs	4.53	0.05	7.34	3.77	6.30	4.94	1975.64
Hngzh HikVDT	30.90	-0.67	55.55	28.10	2.69	16.38	39586.79
Hunng Pwr	3.67	0.35	5.74	2.62	5.35	-4.14	2206.55
IM Baotou Stl	1.97	0.02	3.21	1.75	-	32.35	8713.13
In&CmBkCh	3.85	0.13	4.94	3.37	7.83	3.54	42742.6
IndstrlBk	17.01	0.63	23.22	15.01	4.73	4.50	49338.21
Kweichow	1522.01	-44.99	2216.96	1359	1.31	33.07	266949.52
Midea	0.36	-0.01	0.60	0.35	-	-3.93	13.86
New Ch Life Ins	17.20	0.92	24.70	12.04	8.84	3.28	2275.13
PetroChina	3.45	0.07	4.49	3.01	6.87	6.99	9310.94
PingAnIns	43.85	-0.25	69.40	31.30	5.67	7.00	41773.16
PngAnBnk	12.17	0.48	19.06	10.39	1.48	7.01	32973.91
Pwr Cons Corp	7.69	0.54	9.81	5.99	1.20	15.42	11801.36
SaicMtr	14.65	0.14	22.14	13.77	4.21	7.07	23898.05
ShenwanHong	0.09	0.00	0.18	0.05	-	2.70	102.54
ShgPdgBk	7.17	0.19	8.81	6.64	6.66	4.42	29384.17
Sinopec Corp	3.56	0.14	4.28	3.06	3.89	4.31	11593.28
Sinopec Oil	1.99	0.02	2.37	1.70	-	638.17	3770.25
Denmark (kr)							
DanskeBk	127.40	5.00	133.25	91.28	1.53	8.94	15371.38
MollerMrsk	15495	475.00	24070	13185	2.14	2.59	18155.22
NovoB	849.00	37.00	864.40	604.40	1.07	41.96	207032.97
Finland (€)							
Nokia	4.69	-0.01	5.71	4.12	-	16.56	27774.68
SampoA	48.07	0.30	48.74	35.85	3.47	10.48	26665.82
France (€)							
Airbus Grpe	113.82	-0.82	120.36	86.52	-	21.38	93360.14
AirLiquide	141.50	4.86	153.40	114.48	1.90	26.76	77071.42
AXA	27.27	0.19	29.09	20.34	5.12	9.41	66308.25
BNP Parib	53.33	0.02	68.07	40.67	4.90	7.87	68502.62
ChristianDior	691.00	4.00	733.50	513.00	0.99	25.85	129800.71
Cred Agr	9.74	0.03	14.27	8.09	8.02	5.45	30832.79
Danone	50.47	0.59	58.24	46.48	3.75	17.59	35496.02
EDF	12.00	0.07	12.48	6.64	3.96	9.46	48534.73
Engie SA	14.43	0.05	14.68	9.79	3.58	10.41	36564.51
EssilorLuxottica	175.20	1.85	189.40	132.70	0.60	54.74	81574.82
Hermes Intl	1478.5	8.50	1678	957.60	0.30	65.03	162428.85
LOreal	350.25	2.15	433.65	300.45	1.11	43.72	195630.82
LVMH	700.20	2.00	738.50	535.00	0.98	30.04	366704.26
Orange	9.93	0.12	11.94	8.93	5.90	3377.26	27488.04
PernodRic	186.90	1.20	214.00	166.60	1.63	28.91	50170
Renault	33.77	0.73	38.07	20.47	-	-25.84	10392.47
Safran	117.22	2.48	117.62	87.85	0.36	1201.34	52117.11
Sanofi	87.54	1.50	106.08	76.45	3.57	18.13	115466.09
Sant Gbn	45.31	0.99	64.82	35.20	2.93	11.10	24316.16
Schneider	142.32	0.04	173.78	110.02	1.78	25.72	84581.71
SocGen	24.30	0.27	37.68	18.34	2.22	4.21	21487.22
Total	58.44	1.04	59.15	40.09	4.51	11.50	159283.65
UnibailR	52.75	1.25	73.09	39.68	-	-7.70	7617.1
Vinci	97.08	1.64	103.74	80.74	2.70	22.06	60412.32
Vivendi	8.71	0.26	12.16	7.59	6.72	-15.94	10045.74
Germany (€)							
Allianz	205.35	1.40	232.50	156.22	4.56	13.29	87286.23
BASF	49.61	-0.02	69.15	37.90	6.49	8.42	47413.09
Bayer	55.45	1.66	67.99	43.91	3.52	55.71	56689.71
BMW	83.96	-0.19	97.60	67.58	2.21	4.58	52597.99
Continental	57.22	0.46	105.82	44.44	-	9.04	11909.53
Deut Bank	10.39	0.18	14.64	7.46	-	10.47	22346.63
Deut Tlkm	19.77	0.43	19.86	14.47	2.96	23.28	102568.66
DeutsPost	38.28	-0.41	56.91	29.68	3.52	9.93	49359.16
E.ON	9.13	0.01	12.54	7.28	5.03	5.20	25084.47
Fresenius Med	29.92	0.08	63.66	26.19	4.37	9.26	9123.04
Fresenius SE	25.70	1.29	38.11	19.76	3.42	8.33	14936.94
HenkelKgaA	64.35	1.50	74.75	56.55	2.77	17.54	17397.41
Linde	331.00	8.25	334.70	244.00	1.10	52.70	170291.2
Mercedes-Benz	62.37	0.15	77.90	50.19	2.11	6.39	69438.01
MuenchRkv	298.50	5.20	299.20	205.15	3.20	14.62	43519.4
SAP	106.02	0.86	125.26	81.35	1.70	24.36	135540.22
Siemens	132.06	-0.44	154.70	93.67	2.59	20.35	116813.75
Volkswgn	183.05	-5.55	282.60	158.80	2.56	6.34	56211.82
Hong Kong (HK$)							
AIA	74.55	-1.85	92.50	57.25	1.60	19.11	112750.89
BOC Hold	25.10	1.10	32.75	23.20	4.43	12.90	33944.97
Ch OSLnd&Inv	20.50	0.50	27.35	14.58	5.25	5.10	28699.67
ChngKng	47.35	0.25	57.00	42.90	3.35	10.85	21835.37
Citic Ltd	7.85	0.14	9.26	6.96	6.14	3.64	29209.82
Citic Secs	14.78	-0.04	21.32	11.82	2.90	7.62	4953.39
CK Hutchison	43.55	-0.65	60.45	38.80	4.68	5.53	21360.34
CNOOC	10.24	-0.14	12.54	7.55	3.95	8.95	58387.54
HangSeng	123.40	0.30	169.50	110.00	4.43	19.89	30177.28
HK Exc&Clr	287.60	-15.80	483.60	208.20	2.85	32.48	46640.69
MTR	37.25	-1.05	43.70	33.45	2.96	27.01	29551.21
SandsCh	17.34	-2.62	24.90	12.50	-	-19.18	17950.69
SHK Props	92.20	0.25	99.55	83.10	4.81	10.55	34175.03
Tencent	273.00	-19.00	488.00	198.60	0.53	10.76	334580.03
India (Rs)							
Bhartiartl	846.85	0.70	860.55	628.75	-	184.48	61733.01
HDFC Bk	1617.65	-0.50	1722.1	1271.6	-	27.98	110379.71
Hind Unilevr	2537.45	77.45	2734	1927	1.24	69.36	72976.17
HsngDevFin	2681.35	22.10	2933.8	2026	0.84	23.29	59712.61
ICICI Bk	930.30	10.50	943.25	642.15	0.21	30.11	79398.62
Infosys	1635.65	48.25	1923.3	1360	1.82	32.97	84246.59
ITC	340.30	-3.40	361.45	207.00	3.10	28.85	51666.7
L&T	2062.75	33.20	2095.8	1456.35	0.86	34.91	35481.01
OilNatGas	140.55	-2.65	189.80	119.85	6.35	4.06	21642.73
Reliancein	2617.6	18.55	2856.15	2222	0.26	30.56	216783.46
SBI NewA	607.40	8.35	622.70	430.70	0.65	17.28	66352.17
SunPhrmInds	1033.85	20.50	1070.95	733.70	0.71	39.31	30362.66
Tata Cons	3389.65	40.65	3920	2950.1	1.05	33.03	151814.96
Israel (ILS)							
TevaPha	30.05	-1.27	37.23	23.83	-	25.80	9758.63
Italy (€)							
Enel	5.16	0.00	7.25	3.96	6.94	24.57	54539.56
ENI	14.30	0.11	14.85	10.43	4.60	6.17	53648.29
Generali	16.93	-0.33	21.55	13.67	8.47	9.75	27855.55
IntSPaolo	2.16	-0.06	2.92	1.58	1.65	68.56	43645.48
Unicred	13.12	0.02	15.93	7.75	0.89	19.97	30555.31
Japan (¥)							
AstellasPh	2145	77.50	2205	1739	2.32	30.63	28279.37
Bridgestne	5232	-8.00	5509	4042	3.42	11.29	26815.58
Canon	3202	68.00	3516	2467	3.29	14.70	30669.37
CntJpRwy	16645	235.00	17920	14660	0.84	-29.61	24623.84
Denso	7701	107.00	9575	6549	1.96	20.02	43576.04
EastJpRwy	7778	-80.00	8280	6373	1.39	-7.40	21109.93
Fanuc	20480	-190.00	25300	18740	2.38	23.11	29695.54
FastRetail	79890	-2570.00	88230	54310	0.71	35.58	60856.19
Fuji Hvy Ind	2325	97.00	2684	1664.5	2.60	25.34	12842.61
Hitachi	7418	169.00	7463	4750	1.67	10.31	51596.89
HondaMtr	3370	69.00	3755	3043	4.13	6.76	43838.52
JapanTob	2831.5	69.50	2848	2000	5.21	13.67	40667.86
KDDI	4106	42.00	4636	3237	3.16	13.05	67899.02
Keyence	59730	140.00	74710	44880	0.36	47.35	104321.69
MitsbCp	4692	350.00	4845	3383	3.18	9.93	49671.02
MitsubEst	1009.68	13.18	1013.24	876.51	-	-	-
MitsubishiEle	1422.5	55.00	1518	1225.5	3.04	12.06	21934.61
MitsuiFud	966.01	2.07	970.56	684.38	-	-	-
MitUFJFin	758.70	41.00	828.30	601.40	3.70	7.30	72366.55
Mizuho Fin	1709	82.00	1710.5	1397	4.93	7.75	31163.93
Murata Mfg	7682	-29.00	9410	6604	1.69	14.63	37281.33
Nippon T&T	3886	126.00	4128	3054	2.92	11.60	101078.2
NipponTT	3886	126.00	4128	3054	2.92	11.60	101078.2
Nissan Mt	504.40	15.60	643.00	436.50	-	15.19	15288.53
Nomura	502.50	9.10	562.20	460.30	4.94	-32.05	11668.7
Nppn Stl	2258.5	66.50	2318.5	1690.5	3.82	3.31	15413.29
Panasonic	1286	56.00	1342	1006.5	2.10	12.06	22663.68
Seven & I	5705	130.00	6083	4552	1.95	20.14	36317.07
ShnEtsuCh	17800	470.00	20200	14185	1.76	15.81	52530.21
Softbank	6079	-240.00	7180	4210	0.78	4.85	75216.06
Sony	11600	405.00	14745	9213	0.56	13.74	105052.41
SumitomoF	4784	216.00	4803	3672	4.51	8.63	47228.18
Takeda Ph	4035	140.00	4063	2993	4.82	13.43	45849.5
TokioMarine	2944	278.00	2950	1886	8.07	4.44	43129.33
Toyota	2054.5	61.00	2375.5	1805	2.68	8.60	240711.98
Mexico (Mex$)							
AmerMvl	19.80	0.34	21.44	15.66	1.66	15.85	43472.17
FEMSA UBD	154.55	-0.20	169.96	120.63	1.33	125.06	17275.79
WalMrtMex	74.10	2.85	82.93	64.81	0.69	36.55	66923.1
Netherlands (€)							
ASML Hld	574.10	2.70	733.20	376.10	0.57	45.42	242842.42
Heineken	89.20	1.30	100.95	77.50	1.07	15.84	53467.89
ING	11.63	0.19	14.00	7.90	5.03	9.69	45109.02
Unilever	47.86	1.39	48.81	39.36	3.00	24.57	146715.15
Norway (Kr)							
DNB	189.25	5.20	220.50	168.05	9.19	12.09	29887.15
Equinor	366.50	23.95	410.95	218.00	1.34	15.81	117865.48
Telenor	100.50	2.32	148.80	88.54	8.95	16.98	14243.95
Qatar (QR)							
QatarNtBk	19.15	0.01	27.00	18.40	2.65	15.38	48569.39
Saudi Arabia (SR)							
AlRajhiBnk	82.80	-1.80	117.40	78.60	2.60	15.64	88136.68
Natnlcombnk	53.00	-0.80	82.00	52.00	2.45	19.82	63157.71
SaudiBasic	84.40	0.40	141.40	81.10	3.45	12.23	67379.85
SaudiTelec	39.10	1.10	48.88	37.10	9.18	7.70	52025.1
Singapore (S$)							
DBS	34.75	-0.86	37.49	29.45	3.23	14.76	64987.58
JardnMt US$	47.73	0.55	62.10	42.60	3.22	8.89	13833.31
OCBC	12.25	-0.22	13.54	10.98	3.12	12.65	40001.79
SingTel	2.70	-0.09	2.88	2.31	2.53	47.21	32387.14
UOB	30.25	0.09	33.33	25.47	2.98	13.94	36810.62
South Africa (R)							
Firstrand	67.09	1.76	79.34	53.25	3.75	12.50	21988.91
MTN Grp	135.78	4.18	211.49	115.46	-	19.06	14948.65
Naspers N	2445.88	-114.96	2853.25	1392.5	0.23	13.54	62238.26
South Korea (KRW)							
HyundMobis	209500	-1500.00	265500	189500	1.90	8.22	14923.49
KoreaElePwr	20150	600.00	25100	16500	6.05	-11.83	9773.02
SK Hynix	85100	-2600.00	134000	80400	1.80	6.12	46806.44
SmsungEl	61000	-400.00	80800	51800	2.35	10.62	275125.97
Spain (€)							
BBVA	5.64	0.19	6.12	3.97	6.42	7.87	35398.53
BcoSantdr	2.83	0.23	3.48	2.32	2.63	5.82	49521.32
CaixaBnk	3.58	0.18	3.64	2.22	0.74	24.10	29996.57
Iberdrola	10.82	0.23	11.49	8.47	3.81	19.02	71635.97
Inditex	24.96	0.84	31.33	18.55	0.86	26.98	80953.7
Repsol	14.67	0.88	16.23	9.60	3.99	9.17	22172.71
Telefonica	3.65	0.11	5.06	3.24	9.24	2.73	21954.51
Sweden (SKr)							
AtlasCpcoB	118.40	1.60	133.60	22.08	6.34	7.76	17729.91
Ericsson	65.59	0.67	117.32	58.81	3.52	9.49	19333.08
H & M	119.30	1.60	191.86	98.25	5.42	16.13	16717.81
Investor	195.24	3.76	228.75	158.22	1.84	8.24	34126.24
Nordea Bk	109.46	1.12	113.78	85.25	13.72	12.53	39227.94
SEB	119.40	1.25	138.75	91.64	8.69	9.79	24680.36
SvnskaHn	104.30	-1.85	107.45	80.88	4.92	10.04	19459.91
Swedbank	167.65	1.65	194.60	124.50	8.92	8.79	18207.01
Telia Co	29.45	0.23	41.70	27.93	6.98	10.19	11554.64
Volvo	195.26	3.16	218.65	148.24	3.42	12.48	29756.17
Switzerland (SFr)							
ABB	29.91	0.63	33.86	23.84	2.58	14.70	62080.64
CredSuisse	3.32	-0.74	9.26	3.31	2.80	-5.34	9291.35
Nestle	113.00	2.12	128.90	103.42	2.26	20.10	328280.15
Novartis	83.03	1.52	88.42	73.01	3.37	9.24	210839.81
Richemont	114.80	-1.45	146.10	90.28	1.58	28.04	63306.15
Roche	311.40	3.40	404.20	298.60	2.62	21.37	231119.82
Swiss Re	82.58	2.06	102.20	68.18	6.64	20.44	27698
Swisscom	505.60	5.90	587.40	443.40	4.04	15.41	27668.56
UBS	17.48	-0.01	19.90	13.10	1.84	9.22	65086.24
Zurich Fin	450.90	9.10	461.70	376.00	4.12	15.39	71669.65
Taiwan (NT$)							
Chunghwa Telecom	112.50	4.50	132.50	105.50	3.79	24.59	28258.67
Formosa PetChem	86.90	3.30	103.50	75.20	0.68	16.81	26804.62
HonHaiPrc	100.50	-1.00	116.00	99.50	3.97	10.18	45113.22
MediaTek	727.00	2.00	1200	533.00	5.07	10.39	37651.44
TaiwanSem	498.00	13.00	650.00	370.00	2.14	19.90	418137.23
Thailand (THB)							
PTT Explor	33.75	0.75	41.25	32.75	5.73	9.30	26902.91
United Arab Emirates (Dhs)							
Emirtestele	24.30	-	38.98	11.60	2.75	27.17	57535.64
United Kingdom (p)							
Anglo American	3204	43.50	4292.5	2487.5	5.56	6.34	54427.44
AscBrFd	1589.5	55.50	2063	1223	0.39	26.27	15218.61
AstraZen	10954	34.00	11540	8090.32	1.89	1854.72	167775.44
Aviva	456.60	1.50	606.58	341.92	4.68	60.08	22161.51
Barclays	159.06	0.84	209.45	132.06	1.89	3.86	32824.88
BP	488.35	12.30	503.30	310.53	3.22	17.72	117712.05
BrAmTob	3355.5	44.50	3645	2514	6.43	11.35	75661.71
BT	126.90	4.10	201.40	113.80	-	12.32	15227.34
Compass	1841	-9.50	1970.5	1450	0.76	44.79	36616.71
Diageo	3762.5	88.50	4097	3282.5	1.93	28.94	114552.5
GlaxoSmh	1392.4	24.00	2753.96	1280.92	5.75	16.08	82814.77
Glencore	533.80	28.00	548.30	346.40	1.66	19.54	93122.52
HSBC	491.95	13.05	567.20	409.85	3.28	10.75	119290.67
Imperial Brands	2126	5.00	2185	1434.23	6.50	7.11	24522.23
Jardine Mathes.	62.50	0.00	60.50	46.89	2.46	11.65	18114.01
LlydsBkg	46.31	0.84	56.00	38.10	5.55	6.43	40364.36
LSE Group	8116	-6.00	8612	6230	0.95	82.99	33961.44
Natl Grid	1019.5	2.00	1271.45	844.29	4.82	23.76	41385.75
Natwest Group	256.00	-2.10	284.42	196.92	4.10	10.08	37047.3
Prudential	943.40	-35.20	1431.5	782.40	1.25	15.32	29519.43
ReckittB	5900	88.00	6824	5400	2.96	-25.53	50248.03
RELX	2325	42.00	2474	2056	2.05	30.67	53867.52
RioTinto	5379	-6.00	6343	4436.95	9.34	5.63	87250.65
RollsRoyce	90.85	5.36	161.91	64.44	-	61.80	2043.46
Shell PLC	2367	22.50	2527	1534.2	2.56	12.47	131599.32
StandCh	590.00	8.40	641.00	406.20	1.50	13.23	23523.96
Tesco	235.00	3.70	304.10	194.35	3.89	11.97	23270.15
Unilever♦	4113.5	73.00	4178	3267.5	3.52	21.12	61278.5
Vodafone	93.06	-4.36	141.60	89.87	8.31	-208.19	30020.3
WPP	876.60	7.80	1231.5	713.00	3.02	16.70	13422.74
United States of America ($)							
21stC Fox A	31.20	0.27	44.95	28.02	1.34	14.15	9437.96
3M	129.34	2.58	179.18	107.07	4.09	14.31	71491.77
AbbottLb	106.88	3.01	142.60	93.25	1.50	30.38	186344.45
Abbvie	159.99	5.01	175.91	115.10	2.90	27.78	282939.2
Accenture	296.61	10.11	417.37	242.95	1.11	33.73	197181.33
Activision Bli.	73.56	-0.54	82.00	56.40	0.57	23.95	57569.92
Adobe	333.16	2.30	694.89	274.73	-	36.70	154886.08
Advanced Micro	75.46	1.89	164.46	54.57	-	32.88	121668.4
AEP	95.23	3.95	105.60	80.22	2.81	21.50	48935.24
Aflac	72.60	1.66	72.67	52.07	1.62	12.72	45141.85
AirProd	310.61	14.13	311.13	216.24	1.72	36.54	68912.68
Allstate	135.10	2.36	144.46	106.11	2.14	8.91	35829.81
Alphabet	97.58	0.15	151.55	83.34	-	0.97	582845.34
Altria	44.95	0.75	57.05	40.35	6.99	37.56	80549.2
Amazon	93.68	-0.47	181.68	85.87	-	1.62	955639.95
AmerAir	14.61	0.56	21.42	11.65	-	-4.37	9494.99
AmerExpr	153.89	1.39	199.55	130.65	1.08	16.74	114991.64
AmerIntGrp	61.30	1.48	65.73	47.05	1.86	6.34	45544.67
AmerTower	220.44	4.51	291.99	178.17	2.11	43.62	102638.1
Amgen	283.94	-3.35	296.67	198.64	2.21	30.93	151504.48
Amphenol Corp	80.65	0.94	88.45	61.67	0.86	35.99	47994.37
Analog Devices	167.97	6.12	188.20	133.48	1.48	63.17	85546.44
Anthem	482.58	21.82	-	-	-	-	-
Aon Cp	307.35	6.03	341.98	246.21	0.58	62.02	63576.25
Apple	148.27	-3.02	182.13	129.04	0.52	27.54	2358696.66
Applied Materi.	106.54	1.84	167.06	71.12	0.80	16.46	91657.36
Aptiv	105.72	-2.32	170.76	77.96	-	61.03	28643.43
ArcherDan	97.46	2.31	98.88	61.80	1.36	22.79	53538.11
AT&T	19.16	0.19	21.53	14.46	9.70	7.77	136517.69
Autodesk	200.26	-10.11	285.38	163.20	-	99.18	43227.93
AutomData	264.35	8.33	264.94	192.26	1.29	45.83	109659.72
AutoZone	2571.03	110.19	2575.29	1703.32	-	26.02	48801.82
Avago Tech	532.65	17.49	677.76	415.07	2.52	33.69	215722
BakerHu	28.73	-0.40	39.78	20.42	2.30	74.47	28772.16
Bank of NY	45.78	1.22	64.63	36.22	2.54	12.38	37003.06
BankAm	37.79	0.60	50.11	29.31	1.84	11.85	303167.71
Baxter	56.03	1.03	89.70	49.83	1.73	24.80	28243.37
BectonDick	237.99	12.40	277.29	215.20	1.26	46.11	67440.6
BerkshHat	477950.81	9660.81	544389.26	393012.25	-	9.00	285253.47
Biogen	305.95	3.06	307.53	187.16	-	32.95	44056.87
BlackRock	737.77	17.16	934.76	503.12	2.00	21.62	110809.19
Boeing	177.88	3.99	223.23	113.02	-	-27.86	105629.57
Booking Holdings	1994.56	54.28	2715.66	1616.85	-	79.30	77367.76
Bristol-Myers	79.54	2.09	81.17	53.22	2.26	28.55	169119.68
Broadcom	532.65	17.49	677.76	415.07	2.52	33.69	215722
Cadence Design	167.75	2.73	194.97	132.32	-	75.15	46016.51
CapOne	101.53	2.57	160.54	90.27	1.76	4.22	38753.86
CardinalHlth	78.92	1.24	81.57	45.85	2.22	45.80	20687.62
Carnival	9.79	0.32	23.86	6.11	-	-1.31	10893.4
Caterpillar	235.51	4.08	239.85	160.60	1.62	22.30	122561.61
Centene Corp	84.80	2.12	98.53	69.51	-	41.65	48018.82
CharlesSch	81.52	1.71	96.24	59.35	0.79	32.26	148027.74
Charter Comms	393.45	19.07	693.09	297.66	-	18.01	61248.48
Chevron Corp	183.94	0.95	189.68	110.73	2.58	25.31	355663.81
Chipotle Mexic.	1515.63	13.15	1776.67	1196.28	-	74.12	42014.95
Chubb	216.02	5.88	218.99	173.78	1.31	12.55	89659.16
Cigna	322.82	3.61	331.05	191.74	1.11	22.98	98698.67
Cintas Corp	458.84	9.47	461.44	343.86	0.71	45.05	46593.06
Cisco	48.59	0.80	64.29	38.61	2.75	19.32	199661.89
Citigroup	48.38	-0.28	69.11	40.01	3.76	5.34	93706.68
CME Grp	174.73	2.23	256.94	166.58	1.84	26.84	62854.75
Coca-Cola	62.72	1.58	67.20	52.28	2.39	31.22	271211.85
Cognizant	60.98	1.01	93.47	51.33	1.41	16.86	31336.36
ColgtPlm	76.78	0.32	85.18	67.84	2.08	33.72	64127.75
Comcast	35.83	1.33	53.32	28.39	2.49	13.20	154569.34
ConocPhil	127.13	-1.46	138.49	66.06	1.37	23.46	158413.01
Constellation	257.31	9.66	261.53	207.59	1.06	-1297.53	41483.87
Corning	34.27	0.38	43.47	28.98	2.50	29.98	28981.73
Corteva	66.18	0.98	68.43	43.74	0.72	31.26	47285.08
Corteva	66.18	0.98	68.43	43.74	0.72	31.26	47285.08
Costco	534.18	10.51	612.27	406.51	0.53	47.75	236428.07
CrownCstl	141.58	5.74	208.69	121.71	3.44	59.38	61308.77
CSX	32.25	1.37	38.63	25.80	1.08	19.95	67792.17
CVS	101.40	4.05	111.25	86.28	1.76	19.09	133236.24
Danaher	266.95	6.30	331.69	233.71	0.30	34.11	194326
Deere	441.38	27.12	448.40	283.81	0.80	27.14	133217.15
Delta	35.26	0.79	46.27	27.20	-	47.39	22608.11
Devon Energy	68.44	-1.18	79.40	35.55	2.57	18.29	44739.23
Digital Realty	111.10	0.64	176.53	85.76	3.73	20.95	31943.72
DiscFinServ	108.77	1.51	129.12	87.64	1.54	6.83	29718.77
Disney	99.49	7.69	157.50	86.28	-	64.78	181376.2
Dollar General	257.56	-0.14	262.21	183.25	0.59	28.09	58097.37
DominRes	61.53	2.37	88.78	57.95	3.66	21.60	51267.26
DukeEner	99.52	2.73	116.33	83.76	3.50	22.61	76636.65
DuPont	71.50	2.12	84.08	49.52	1.50	24.79	35520.41
Eaton	166.58	1.57	174.47	122.50	1.63	34.94	66246.88
eBay	45.08	-0.61	73.60	35.92	1.43	132.84	24460.36
Ecolab	148.94	0.83	236.89	131.04	1.17	42.66	42422.29
Edwards Lifesc.	76.04	1.00	131.73	67.13	-	35.78	47009.44
Eli Lilly	365.01	3.34	369.80	231.87	0.83	66.80	346828.24
Emerson	96.38	2.68	100.00	72.41	1.88	23.57	56999.13
EOG Res	143.67	2.65	150.88	80.67	1.00	20.14	84390.25
Equinix	673.34	25.93	847.10	494.89	1.52	136.37	62309.61
EquityResTP	63.31	0.38	94.32	59.32	3.40	20.69	23926.05
Exelon	40.12	1.54	50.71	29.10	3.41	25.82	39868.93
ExxonMb	113.97	1.89	114.66	57.96	2.73	23.68	469359.43
Fedex	176.68	1.96	260.50	141.92	1.45	10.64	45975.63
Fidelity NIS	65.63	4.22	122.06	56.53	2.12	109.70	38943.49
Fiserv	102.91	3.05	110.94	87.03	-	57.92	65350.74
FordMtr	14.07	0.08	25.87	10.61	0.63	3.54	55571.46
Franklin	26.73	0.58	35.18	20.24	3.78	7.92	13350.7
GenDyn	253.44	5.22	254.99	188.64	1.65	24.57	69580.32
GenElectric	88.36	2.88	101.91	59.93	0.32	-30.45	96548.16
GenMills	82.87	1.84	83.60	61.41	2.22	24.52	49186.3
GenMotors	40.31	0.54	67.21	30.33	-	6.74	57268.15
GileadSci	86.24	2.62	86.41	57.17	2.94	19.59	108159.72
GoldmSchs	389.07	9.87	401.75	277.84	1.49	7.33	131752.56
Halliburton	36.64	-0.07	43.99	20.77	0.64	23.06	33270.83
HCA Hold	239.54	9.46	279.02	164.47	0.72	12.68	67721.96
Hew-Pack	30.16	0.68	41.47	24.08	2.48	6.09	30339.12
Hilton Worldwi.	138.88	-0.63	167.99	108.41	-	106.53	37560.93
HiltonWwde	138.88	-0.63	167.99	108.41	-	106.53	37560.93
HomeDep	328.63	15.45	420.61	264.51	1.81	23.48	336427.12
Honywell	220.65	6.12	220.96	166.63	1.53	31.24	148347.9
HumanaInc	540.33	10.43	571.30	363.73	0.46	26.69	68405.95
IBM	148.74	1.10	150.46	114.56	3.93	31.97	134479.76
IDEXX Laborato.	411.69	-2.21	664.70	317.06	-	53.61	34094.5
IllinoisTool	229.03	2.15	248.11	173.52	1.84	30.14	70354.9
Illumina	219.24	-1.32	397.44	173.45	-	48.72	34486.45
Intcntl Exch	107.11	2.90	138.46	88.60	1.10	16.71	59823.67
Intel	29.54	-0.33	55.00	24.59	4.20	6.81	121911.58
Intuit	393.76	13.69	697.27	339.36	0.58	55.22	110987.67
John&John	177.24	1.04	186.69	155.72	2.11	25.42	463391.07
JohnsonCn	67.03	0.05	81.69	45.52	1.53	34.28	46029.76
JPMrgnCh	136.82	2.98	164.78	101.28	2.48	9.98	401321.09
Kimb-Clark	134.49	3.09	144.53	108.74	3.13	28.27	45389.31
KinderM	18.64	0.22	20.20	15.01	5.32	45.08	41886.67
KLA Corp	381.47	5.13	442.44	250.20	0.91	21.99	54061.29
Kraft Heinz	39.03	0.93	44.87	32.73	3.66	53.31	47809.02
Kroger	48.65	0.39	62.78	40.18	1.45	24.87	34823.98
LasVegasSd	42.86	-0.77	48.27	28.88	-	-31.78	32748.35
LibertyGbl	20.01	0.71	29.08	15.22	-	0.96	3439.76
Lilly (E)	365.01	3.34	369.80	231.87	0.83	66.80	346828.24
Linde	343.63	8.72	346.50	262.47	1.10	52.57	169883.64
Lockheed	483.36	6.54	494.66	328.20	2.05	23.24	126675.42
Lowes	211.37	1.44	263.31	170.12	1.28	19.48	131194.38
Lyondell	87.07	4.77	117.22	71.46	4.55	5.81	28352.12
Marathon Ptl	127.04	5.86	127.62	59.55	1.63	70.43	59538.67
Marsh&M	172.15	4.65	183.14	142.80	1.39	29.65	85385.56
MasterCard	350.54	6.85	399.92	276.87	0.57	44.82	334346.12
McDonald's	274.92	1.55	281.67	217.68	1.71	30.67	201357.98
McKesson	381.68	11.95	401.78	215.27	0.42	48.41	54119.03
Medtronic	78.96	-2.34	114.44	76.60	2.82	24.13	104949.94
Merck	107.22	2.99	107.45	71.50	2.20	24.71	271832.48
Meta	196.64	8.00	384.33	169.00	-	15.41	450997.53
Metlife	77.12	1.62	77.36	57.05	2.20	11.82	60508.83
Microsoft	247.51	6.29	344.30	213.43	0.83	29.52	1845056.65
Mnstr Bvrg	103.53	3.83	104.42	71.78	-	45.12	54016.12
MondelezInt	66.65	1.66	69.47	54.72	1.78	24.55	91011.65
Monsanto	10.01	0.02	10.02	9.66	-	51.39	250.25
MorganStly	90.86	1.66	109.73	72.05	2.06	12.67	153563.34
Netflix	284.90	-3.08	676.41	162.71	-	28.39	126786.34
NextEraE	85.59	2.39	92.91	67.22	1.70	125.92	170081.34
Nike	106.12	0.70	173.37	82.22	0.99	31.06	134098.82
NorfolkS	253.58	6.82	296.87	203.65	1.46	23.45	58707.37
Northrop	528.28	7.86	556.27	345.91	1.04	13.59	81308.71
NXP	173.80	1.86	239.91	132.08	1.16	28.67	45037.64
Occid Pet	70.98	-0.27	77.13	26.05	0.05	38.59	64514.73
Oracle	83.15	3.42	106.34	60.78	1.39	35.21	224172.75
Pepsico	184.30	2.97	186.62	153.37	2.06	37.60	253911.81
Perrigo	32.66	0.80	43.90	31.32	2.62	-37.32	4397.33
Pfizer	49.00	0.77	61.71	41.45	2.84	13.96	275052.41
Phillips66	111.42	2.43	113.53	67.08	2.90	42.01	52660.68
PhilMorris	98.18	1.90	112.48	82.85	4.46	18.86	152198.86
PNCFin	167.79	6.63	214.50	143.52	2.55	14.80	67674.23
PPG Inds	132.90	4.43	172.78	107.06	1.60	32.66	31233.97
ProctGmbl	146.52	3.95	165.35	122.18	2.18	27.89	349523.38
Prudntl	108.17	0.84	124.22	85.46	3.80	6.21	40239.24
PublStor	297.34	3.83	421.76	270.73	2.40	33.74	52224.32
Qualcomm	124.27	0.42	192.68	101.93	1.93	15.94	139306.67
Raytheon	97.46	2.10	106.02	79.00	1.84	42.31	143272.12
Regen Pharm	735.55	-1.18	769.63	538.01	-	11.45	78765.48
S&P Global	356.86	10.99	484.21	279.32	0.77	31.95	116264.99
Salesforce	153.74	5.70	299.27	136.04	-	115.24	153740
Schlmbrg	51.28	-2.16	56.04	27.65	0.87	43.51	72714.72
Sempra Energy	163.02	5.18	176.47	119.56	2.41	45.53	51242.62
Shrwin-Will	249.70	9.66	354.15	195.24	0.79	40.06	64706.82
SimonProp	120.00	2.10	164.68	86.02	5.32	19.65	39233.49
SouthCpr	58.92	0.90	79.32	42.42	4.85	15.03	45550.96
Starbucks	99.48	1.53	117.34	68.39	1.65	30.11	114183.14
StateSt	77.08	1.49	103.76	58.62	2.53	12.01	28283.75
Stryker	232.54	8.93	279.28	188.84	0.99	49.99	88000.1
Sychrony Fin	37.03	1.14	48.57	27.22	2.18	5.46	16681.3
T-MobileUS	151.61	2.78	154.38	101.51	-	70.45	188626.21
Target	163.54	0.66	254.87	137.16	1.74	12.87	75271.35
TE Connect	127.99	1.60	164.12	104.76	1.38	19.48	40602.34
Tesla Mtrs	182.45	2.26	390.95	166.19	-	41.70	576124.67
TexasInstr	178.42	3.24	199.90	144.46	2.11	24.19	161928.94
TheTrvelers	187.96	3.40	189.53	145.40	1.72	12.98	44047.96
ThrmoFshr	549.55	14.31	668.94	475.77	0.17	31.63	215531.07
TJX Cos	80.74	2.58	81.17	53.69	1.16	33.17	93743.42
Truist Financial Corp	46.96	1.30	66.10	40.01	3.54	11.77	62304.94
Twitter	53.70	1.26	60.16	31.30	-	-224.30	41093.72
UnionPac	214.61	4.03	278.94	183.70	1.93	22.21	131942.4
UPS	183.01	4.04	233.72	154.87	1.99	13.96	133564.53
USBancorp	44.16	0.78	60.50	38.39	3.56	9.70	65606.54
UtdHlthcre	538.28	8.28	558.10	438.21	0.93	33.34	502936.75
ValeroEngy	139.99	2.37	146.81	65.13	2.50	69.07	53969.37
Verizon	39.18	0.63	55.51	34.55	5.78	8.25	164527.85
VertexPharm	312.78	-1.86	323.61	182.66	-	38.88	80286.67
VF Cp	34.29	1.21	78.17	26.46	5.13	12.59	13323.93
Visa Inc	213.52	2.72	235.85	174.60	0.56	39.59	347638.54
Walgreen	41.69	1.94	53.46	30.39	4.11	6.76	36054.06
WalMartSto	152.33	2.10	160.77	117.27	1.30	34.70	413459.86
Walt Disney	99.49	7.69	157.50	86.28	-	64.78	181376.2
Waste Manage.	164.18	3.00	175.98	138.58	1.25	42.86	67392.13
WellsFargo	47.57	1.07	60.30	36.54	1.45	10.77	181246
Williams Cos	34.02	0.62	37.97	24.86	4.31	30.72	41441.83
Workday	148.78	2.04	285.58	128.72	-	1375.45	29904.78
Yum!Brnds	126.74	2.13	139.85	103.97	1.41	27.24	35701.12
Zoetis	149.59	3.95	249.27	124.15	0.60	39.23	69719.71
Zoom	75.03	-6.61	235.97	70.44	-	18.50	18830.67
Venezuela (VEF)							
Bco de Vnzla	1.43	0.08	2.14	0.32	144.30	-	501.66
Bco Provncl	4.05	0.85	4.05	1.70	-	0.00	146.09

Closing prices and highs & lows are in traded currency (with variations for that country indicated by stock), market capitalisation is in USD. Highs & lows are based on intraday trading over a rolling 52 week period.
♦ ex-dividend
■ ex-capital redistribution
price at time of suspension

FT 500: TOP 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
Chna Utd Coms	4.17	3.80	0.37	9.74	0.52	14.2	21.22
BOE Tech	0.77	0.68	0.09	13.24	0.09	13.2	8.22
Ch Rail Gp	4.29	4.12	0.17	4.13	0.44	11.4	14.10
China Vanke	14.84	13.90	0.94	6.76	1.50	11.2	22.64
Hunng Pwr	3.67	3.73	-0.06	-1.61	0.35	10.5	1.10
TokioMarine	2944.00	2910.50	33.50	1.15	278.00	10.4	11.58
Ch Coms Cons	3.72	3.61	0.11	3.05	0.35	10.4	17.03
Ch Rail Cons	4.57	4.39	0.18	4.10	0.42	10.1	10.92
ChUncHK	4.13	4.00	0.13	3.25	0.37	9.8	21.83
ChStConEng	5.74	5.42	0.32	5.90	0.47	8.9	15.03
BcoSantdr	2.83	2.79	0.05	1.72	0.23	8.7	4.02
Disney	99.49	98.88	0.61	0.62	7.69	8.4	-4.60
Walt Disney	99.49	98.88	0.61	0.62	7.69	8.4	-4.60
MitsbCp	4692.00	4708.00	-16.00	-0.34	350.00	8.1	15.20
Fresenius SE	25.63	25.37	0.26	1.02	1.88	7.9	7.96
Pwr Cons Corp	7.69	7.50	0.19	2.53	0.54	7.6	1.05
ChShenEgy	23.60	22.70	0.90	3.96	1.60	7.3	-0.21
Equinor	366.50	363.00	3.50	0.96	23.95	7.0	1.86
Fidelity NIS	65.63	65.93	-0.30	-0.46	4.22	6.9	-17.86
Deere	441.38	437.52	3.86	0.88	27.12	6.5	12.63

Based on the FT Global 500 companies in local currency

FT 500: BOTTOM 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
CredSuisse	3.32	3.55	-0.23	-6.56	-0.74	-18.2	-29.31
SandsCh	17.34	18.04	-0.70	-3.88	-2.62	-13.1	23.86
Bausch Hlth	9.05	9.00	0.05	0.56	-1.07	-10.6	-3.61
Petrobras	27.76	28.12	-0.36	-1.28	-3.20	-10.3	-24.48
Zoom	75.03	76.14	-1.11	-1.46	-6.61	-8.1	-10.73
Tencent	273.00	280.40	-7.40	-2.64	-19.00	-6.5	17.47
HK Exc&Clr	287.60	291.40	-3.80	-1.30	-15.80	-5.2	26.03
Autodesk	200.26	197.07	3.19	1.62	-10.11	-4.8	-7.16
Naspers N	2445.88	2484.95	-39.07	-1.57	-114.96	-4.5	42.92
Vodafone	93.06	92.67	0.39	0.42	-4.36	-4.5	-5.69
Schlmbrg	51.28	51.42	-0.14	-0.27	-2.16	-4.0	-2.21
Softbank	6079.00	6064.00	15.00	0.25	-240.00	-3.8	6.02
Prudential	943.40	950.60	-7.20	-0.76	-35.20	-3.6	15.12
SingTel	2.70	2.70	0.00	0.00	-0.09	-3.2	13.45
ShenwanHong	0.09	0.09	0.00	-2.15	0.00	-3.2	-9.00
SHOP	48.68	49.99	-1.31	-2.62	-1.58	-3.1	20.13
FastRetail	79890.00	80570.00	-680.00	-0.84	-2570.00	-3.1	-3.50
SK Hynix	85100.00	86900.00	-1800.00	-2.07	-2600.00	-3.0	-7.30
Medtronic	78.96	79.02	-0.06	-0.08	-2.34	-2.9	-6.49
Kweichow	1522.01	1519.99	2.02	0.13	-44.99	-2.9	1.38

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

Nov 25	Red date	Coupon	Ratings S*	Ratings M*	Ratings F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
High Yield US$										
HCA Inc.	04/24	8.36	BB-	Ba2	BB	113.75	4.24	0.00	0.12	-
High Yield Euro										
Aldesa Financial Services S.A.	04/21	7.25	-	-	B	71.10	28.23	0.00	0.64	25.98
Emerging US$										
Peru	03/19	7.13	BBB+	A3	BBB+	104.40	2.60	-	-	0.34
Colombia	01/26	4.50	-	Baa2	BBB-	109.50	2.33	0.16	0.52	1.28
Brazil	04/26	6.00	-	Ba2	BB-	115.15	2.78	-0.01	0.65	1.73
Poland	04/26	3.25	-	A2	A-	111.22	0.98	0.03	0.16	-0.07
Mexico	05/26	11.50	-	Baa1	BBB-	149.00	1.61	0.00	-0.12	0.56
Turkey	03/27	6.00	-	Ba2	BB+	101.26	5.82	0.00	0.17	3.07
Turkey	03/27	6.00	-	B2	BB-	102.88	5.43	0.14	0.83	4.38
Peru	08/27	4.13	BBB+	A3	BBB+	103.50	3.66	0.01	-0.02	0.80
Russia	06/28	12.75	-	Baa3	BBB	168.12	2.48	0.07	0.05	-
Brazil	02/47	5.63	-	Ba2	BB-	101.48	5.52	0.08	0.80	-
Emerging Euro										
Brazil	04/21	2.88	BB-	Ba2	BB-	103.09	0.05	0.01	-0.09	-1.19
Mexico	04/23	2.75	BBB+	A3	BBB+	107.76	0.76	0.00	-0.07	-1.56
Mexico	04/23	2.75	-	Baa1	BBB-	106.48	-0.26	-	-	-0.36
Bulgaria	03/28	3.00	BBB-	Baa2	BBB	117.04	1.00	0.02	-0.15	-1.42

Interactive Data Pricing and Reference Data LLC, an ICE Data Services company. US $ denominated bonds NY close; all other London close. *S - Standard & Poor's, M - Moody's, F - Fitch.

BONDS: GLOBAL INVESTMENT GRADE

Nov 25	Red date	Coupon	Ratings S*	Ratings M*	Ratings F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
US$										
FleetBoston Financial Corp.	01/28	6.88	BBB+	Baa1	A-	129.00	2.54	-0.01	-0.05	-
The Goldman Sachs Group, Inc.	02/28	5.00	BBB+	A3	A	117.21	2.47	0.00	0.32	-
NationsBank Corp.	03/28	6.80	BBB+	Baa1	A-	127.69	2.72	-0.01	0.06	-
GTE LLC	04/28	6.94	BBB+	Baa2	A-	128.27	2.80	0.00	-0.11	-
United Utilities PLC	08/28	6.88	BBB	Baa1	A-	130.43	2.62	-0.07	-0.22	-
Barclays Bank plc	01/29	4.50	A	A1	A+	96.46	5.02	0.00	0.02	-
Euro										
Electricite de France (EDF)	04/30	4.63	A-	A3	A-	137.45	0.82	-0.01	0.10	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	121.70	0.93	0.00	0.02	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	124.42	0.68	0.00	-0.11	-
Finland	04/31	0.75	AA+	Aa1	AA+	111.08	-0.27	0.00	-0.05	-0.87
Yen										
Mexico	06/26	1.09	-	Baa1	BBB-	98.73	1.34	-0.02	-0.14	0.27
£ Sterling										
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	128.68	3.20	0.00	-0.01	0.40
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	137.45	2.19	-0.03	0.02	-

Interactive Data Pricing and Reference Data LLC, an ICE Data Services company. US $ denominated bonds NY close; all other London close. *S - Standard & Poor's, M - Moody's, F - Fitch.

INTEREST RATES: OFFICIAL

Nov 25	Rate	Current	Since	Last
US	Fed Funds	3.00-3.25	21-09-2022	2.25-2.5
US	Prime	6.25	22-09-2022	5.50
US	Discount	3.25	22-09-2022	2.50
Euro	Repo	0.53	01-11-2022	0.374
UK	Repo	3.00	02-11-2022	2.25
Japan	O'night Call	0.00-0.10	01-02-2016	0.00
Switzerland	Libor Target	-1.25-0.25	15-01-2015	-0.75--0.25

INTEREST RATES: MARKET

Nov 25 (Libor: Nov 24)	Over night	Change Day	Change Week	Change Month	One month	Three month	Six month	One year
US$ Libor	3.81886	0.000	0.002	-0.014	4.02914	4.73629	5.18257	5.56014
Euro Libor	-0.64957	-0.064	0.000	0.001	-0.61943	-0.58057	-0.55600	-0.48571
£ Libor	0.18063	-0.005	0.000	0.062	3.17440	3.59790	4.15010	0.81363
Swiss Fr Libor				-0.002	-0.77540	-0.75300	-0.70280	-0.55320
Yen Libor				0.000	-0.06005	-0.04677	0.03097	0.04867
Euro Euribor				0.014	1.46200	1.90800	2.36800	2.87900
Sterling CDs				0.000	0.50000	0.63000	0.78500	
US$ CDs				0.010	4.08000	4.64000	5.08000	
Euro CDs				0.040	1.53000	1.87000	2.29000	

Nov 25	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	1.15	1.45	1.17	1.47	1.38	1.68	1.72	2.02	2.14	2.44	2.48	2.78
Sterling					0.45	0.55	0.58	0.68	0.71	0.86	0.90	1.05
US Dollar	3.50	3.70	3.66	3.86	3.98	4.18	4.54	4.74	4.98	5.18	5.26	5.46
Japanese Yen	-0.15	0.05	-0.20	0.00	-0.20	0.00	-0.15	0.05	-0.10	0.20	-0.05	0.25

Libor rates come from ICE (see www.theice.com) and are fixed at 11am UK time. Other data sources: US $, Euro & CDs: Tullett Prebon; SDR, US Discount: IMF; EONIA: ECB; Swiss Libor: SNB; EURONIA, RONIA & SONIA: WMBA.

BOND INDICES

	Index	Day's change	Month's change	Year change	Return 1 month	Return 1 year
Markit IBoxx						
ABF Pan-Asia unhedged	196.47	1.09	4.96	-10.61	6.06	-9.76
Corporates(£)	331.71	-0.02	5.16	-16.19	7.10	-16.29
Corporates(€)	211.38	0.51	3.03	-12.48	4.16	-12.57
Eurozone Sov(€)	219.01	0.69	3.12	-13.92	4.51	-14.36
Gilts(£)	286.86	-0.62	4.74	-20.20	6.46	-20.34
Overall(£)	293.40	-0.47	4.63	-18.95	6.33	-19.08
Overall(€)	213.07	0.61	2.98	-13.62	4.23	-13.99
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	680.26	24.11	-	-	14.09	-15.48
Eurozone Govt Bond	110.04	-0.19	-	-	-0.34	-0.64

CREDIT INDICES

	Index	Day's change	Week's change	Month's change	Series high	Series low
Markit iTraxx						
Crossover 5Y	452.68	10.74	-21.21	-103.18	688.92	438.73
Europe 5Y	89.26	1.59	-5.27	-24.17	142.08	86.90
Japan 5Y	79.69	-1.48	-4.97	-25.05	119.29	79.45
Senior Financials 5Y	99.21	2.21	-4.42	-23.65	155.06	96.21
Markit CDX						
Emerging Markets 5Y	235.41	-0.56	-18.44	-56.65	335.29	235.41
Nth Amer High Yld 5Y	456.61	0.00	-33.43	-80.35	625.47	456.61
Nth Amer Inv Grade 5Y	77.48	0.00	-5.73	-16.21	110.98	77.48

Websites: markit.com, ftse.com. All indices shown are unhedged. Currencies are shown in brackets after the index names.

VOLATILITY INDICES

	Nov 25	Day Chng	Prev	52 wk high	52 wk low
VIX	20.54	-0.75	21.29	38.93	16.62
VXD	20.63	0.91	19.72	45.37	3.27
VXN	26.86	-0.93	27.79	44.05	9.94
VDAX	20.37	-0.13	20.50	93.30	-

† CBOE. VIX: S&P 500 index Options Volatility, VXD: DJIA Index Options Volatility, VXN: NASDAQ Index Options Volatility. ‡ Deutsche Borse. VDAX: DAX Index Options Volatility.

BONDS: BENCHMARK GOVERNMENT

	Red Date	Coupon	Bid Price	Bid Yield	Day chg yield	Wk chg yield	Month chg yld	Year chg yld
Australia	-	-	-	-	-	-	-	-
	05/32	1.25	81.73	3.53	-0.04	-0.07	-0.61	-
	02/50	1.00	96.02	1.63	-0.04	-0.06	-0.43	1.23
Austria	02/29	0.50	89.81	2.27	-0.09	-0.20	-0.54	2.42
	02/47	1.50	82.33	2.48	-0.09	-0.23	-0.68	1.96
Belgium	06/27	0.80	94.28	2.13	-0.06	-0.10	-0.29	2.49
	06/47	1.60	81.01	2.66	-0.08	-0.26	-0.65	1.86
Canada	03/25	1.25	94.57	3.78	-0.05	-0.08	-0.32	2.42
	06/30	1.25	88.82	2.92	-0.05	-0.18	-0.67	1.24
	12/48	2.75	95.80	2.98	-0.04	-0.23	-0.72	0.92
Denmark	11/29	0.50	89.68	2.11	-0.09	-0.18	-0.52	2.22
	11/52	0.25	63.49	1.85	-0.08	-0.26	-0.84	1.51
Finland	09/24	0.00	96.29	2.12	-0.02	-0.04	0.01	2.80
	09/29	0.50	88.75	2.31	-0.08	-0.25	-0.54	2.46
France	05/28	0.75	92.90	2.13	-0.07	-0.15	-0.38	2.37
	05/48	2.00	89.48	2.57	-0.09	-0.27	-0.67	1.81
Germany	08/29	0.00	88.61	1.82	-0.08	-0.16	-0.36	2.20
	08/50	0.00	62.52	1.71	-0.09	-0.23	-0.64	1.62
Greece	01/23	3.50	100.37	1.31	-0.16	0.03	0.13	1.56
	01/28	3.75	102.31	3.26	-0.12	-0.41	-1.14	2.49
Ireland	-	-	-	-	-	-	-	-
	05/26	1.00	96.50	2.06	-0.07	-0.14	-0.18	2.44
	02/45	2.00	90.57	2.56	-0.09	-0.26	-0.68	1.84
Italy	02/25	0.35	95.16	2.65	-0.07	-0.09	-0.44	2.72
	05/30	0.40	93.55	1.31	-0.09	-0.16	-0.79	1.90
	03/48	3.45	96.11	3.69	-0.10	-0.31	-0.84	1.83
Japan	04/25	0.05	99.96	0.06	-0.01	0.02	-0.03	0.00
	12/29	0.10	99.62	0.15	0.00	0.01	-0.09	0.17
	12/49	0.40	78.87	1.33	-0.01	0.01	-0.18	0.66
Netherlands	07/27	0.75	94.58	1.99	-0.08	-0.15	-0.32	2.42
	01/47	2.75	114.15	2.00	-0.09	-0.24	-0.75	1.84
New Zealand	05/31	1.50	81.11	4.17	-0.06	0.06	-0.46	1.66
	09/40	2.50	119.32	2.36	-0.09	0.14	-0.38	1.67
Norway	08/30	1.38	88.31	3.10	-0.09	-0.12	-0.65	1.42
Poland	01/23	2.50	99.29	7.09	-0.06	0.13	-0.04	4.39
	07/27	2.50	82.92	6.91	-0.17	-0.49	-1.61	3.40
	04/47	4.00	62.07	7.40	-0.15	0.05	-1.12	3.88
Portugal	04/27	4.13	107.89	2.21	-0.09	-0.18	-0.39	2.41
Spain	-	-	-	-	-	-	-	-
	10/29	0.60	88.12	2.49	-0.09	-0.21	-0.56	2.25
	10/46	2.90	97.37	3.06	-0.09	-0.27	-0.70	1.85
Sweden	06/30	0.13	117.71	-0.33	-0.04	-0.14	-0.28	1.41
	03/39	3.50	124.84	1.74	-0.11	-0.19	-0.49	1.18
Switzerland	04/28	4.00	116.42	0.85	-0.04	-0.01	-0.19	1.19
	06/29	0.00	94.43	0.88	-0.05	-0.03	-0.28	1.13
United Kingdom	07/23	0.75	98.50	3.08	0.04	0.05	-0.06	2.58
	07/27	1.25	91.64	3.20	0.02	-0.07	-0.61	2.47
	07/47	1.50	69.22	3.34	0.06	-0.11	-0.51	2.19
United States	-	-	-	-	-	-	-	-
	03/25	0.50	91.54	4.33	-	-	-	-
	02/30	1.50	85.89	3.75	-	-	-	-
	02/50	0.25	70.83	1.57	-	-	-	-

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GILTS: UK CASH MARKET

Nov 25	Price £	Red Yield	Change in Yield Day	Change in Yield Week	Change in Yield Month	Change in Yield Year	52 Week High	52 Week Low	Amnt £m
	-	-	-	-	-	-	-	-	-
Tr 0.75pc '23	98.48	3.14	3.29	2.61	8.28	582.61	100.82	97.34	34.36
Tr 0.125pc '24	96.35	3.32	3.11	3.11	6.75	492.86	99.44	94.34	35.55
Tr 2pc '25	96.96	3.15	3.28	1.61	-0.63	425.00	105.86	93.15	39.93
Tr 0.125pc '26	91.00	3.13	3.30	0.64	-6.29	396.83	98.77	86.33	35.32
Tr 1.25pc '27	91.35	3.27	2.83	-0.30	-7.37	367.14	104.30	85.65	40.99
Tr 0.875pc '29	85.88	3.17	2.92	-1.86	-10.20	281.93	102.36	78.21	43.62
Tr 4.25pc '32	109.31	3.11	3.32	-3.72	-10.89	214.14	135.62	98.13	40.33
Tr 4.25pc '36	109.17	3.39	2.73	-2.87	-9.36	213.89	145.94	94.91	31.68
Tr 4.5pc '42	114.99	3.46	2.67	-3.08	-8.95	208.93	169.96	93.79	28.35
Tr 3.75pc '52	107.79	3.33	2.15	-1.48	-8.01	217.14	180.27	82.51	25.11
Tr 4pc '60	118.81	3.14	2.61	-0.63	-9.51	237.63	213.01	87.32	25.13

Gilts benchmarks & non-rump undated stocks. Closing mid-price in pounds per £100 nominal of stock.

GILTS: UK FTSE ACTUARIES INDICES

Price Indices / Fixed Coupon	Nov 25	Day's chg %	Total Return	Return 1 month	Return 1 year	Yield
1 Up to 5 Years	81.78	-0.19	2351.80	0.91	-4.26	3.25
2 5 - 10 Years	151.92	-0.63	3204.51	3.79	-12.75	3.18
3 10 - 15 Years	164.69	-0.95	3783.86	5.60	-18.83	3.35
4 5 - 15 Years	154.10	-0.72	3344.56	4.29	-14.66	3.25
5 Over 15 Years	239.67	-1.43	4102.04	7.60	-34.26	3.29
7 All stocks	142.51	-0.81	3169.37	4.35	-20.51	3.27

Index Linked	Nov 25	Day's chg %	Month chg %	Year's chg %	Total Return	Return 1 month	Return 1 year
1 Up to 5 Years	325.60	-0.16	0.36	3.13	2753.20	0.62	4.32
2 Over 5 years	588.91	-0.84	3.27	-35.06	4488.85	3.40	-34.77
3 5-15 years	466.35	-0.47	4.21	-13.90	3771.71	4.38	-13.25
4 Over 15 years	685.80	-1.07	2.62	-43.32	5074.87	2.74	-43.14
5 All stocks	551.25	-0.73	2.84	-31.20	4286.44	2.99	-30.83

Yield Indices	Nov 25	Nov 24	Yr ago		Nov 25	Nov 24	Yr ago
5 Yrs	3.13	3.02	0.66	20 Yrs	3.46	3.38	1.16
10 Yrs	3.27	3.18	0.97	45 Yrs	2.99	2.91	0.82
15 Yrs	3.43	3.35	1.13				

Real yield	inflation 0% Nov 25	inflation 0% Dur yrs	inflation 0% Previous	inflation 0% Yr ago	inflation 5% Nov 25	inflation 5% Dur yrs	inflation 5% Previous	inflation 5% Yr ago
Up to 5 yrs	-0.25	2.82	-0.31	-3.54	-0.62	2.84	-0.69	-3.98
Over 5 yrs	0.01	20.44	-0.03	-2.48	-0.02	20.51	-0.07	-2.51
5-15 yrs	-0.16	9.78	-0.21	-2.98	-0.25	9.79	-0.30	-3.08
Over 15 yrs	0.04	27.00	0.00	-2.42	0.03	27.02	-0.01	-2.44
All stocks	0.00	17.71	-0.04	-2.50	-0.04	17.80	-0.08	-2.53

See FTSE website for more details www.ftse.com/products/indices/gilts
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COMMODITIES

www.ft.com/commodities

Energy		Price*	Change
Crude Oil†	Jan	79.12	1.18
Brent Crude Oil‡		84.91	-0.43
RBOB Gasoline†	Dec	2.46	-0.01
Natural Gas†	Dec	7.08	-0.23
Base Metals (♠ LME 3 Months)			
Aluminium		2365.00	-3.00
Aluminium Alloy		1675.00	-905.00
Copper		8027.50	4.00
Lead		2117.50	-16.00
Nickel		25540.00	-560.00
Tin		21950.00	-370.00
Zinc		2931.50	26.00
Precious Metals (PM London Fix)			
Gold		1755.40	15.25
Silver (US cents)		2156.00	29.50
Platinum		988.00	6.00
Palladium		1900.00	20.00
Bulk Commodities			
Iron Ore		95.24	1.48
Baltic Dry Index		1324.00	82.00
Richards Bay ICE Futures		200.00	0.00

Agricultural & Cattle Futures		Price*	Change
Corn♦	Dec	662.75	6.00
Wheat♦	Dec	792.50	1.00
Soybeans♦	Jan	1437.00	7.25
Soybeans Meal♦	Dec	409.70	1.10
Cocoa (ICE Liffe)✠	Dec	2088.00	57.00
Cocoa (ICE US)♥	Dec	2403.00	22.00
Coffee(Robusta)✠	Jan	1857.00	15.00
Coffee (Arabica)♥	Dec	162.30	2.20
White Sugar✠		529.80	-9.30
Sugar 11♥		19.64	0.09
Cotton♥	Dec	84.02	0.80
Orange Juice♥	Jan	206.40	0.00
Live Cattle♣	Dec	153.33	-0.48
Feeder Cattle♣	May	134.88	-
Lean Hogs♣	Dec	84.23	-0.03

	Nov 24	% Chg Month	% Chg Year
S&P GSCI Spt	612.55	-2.93	5.42
DJ UBS Spot	116.30	3.11	12.31
TR/CC CRB TR	299.06	2.04	18.14
LEBA EUA Carbon	58.91	-1.98	129.94
LEBA UK Power	1048.00	-37.43	-39.60

Sources: † NYMEX, ‡ ECX/ICE, ♦ CBOT, ✠ ICE Liffe, ♥ ICE Futures, ♣ CME, ♠ LME/London Metal Exchange.* Latest prices, $ unless otherwise stated.

BONDS: INDEX-LINKED

	Price Nov 24	Yield Nov 24	Yield Prev	Month return	Value stock	Market	No of stocks
Can 4.25%' 26	111.48	1.301	1.361	0.51	5.25	74012.09	8
Fr 0.25%' 24	103.09	-1.566	-1.637	0.76	17.92	256962.76	17
Swe 1.00%' 25	125.75	-0.342	-0.347	1.06	35.38	220846.13	6
UK 0.125%' 24	104.29	-3.024	-3.133	0.31	15.24	609527.74	31
UK 2.50%' 24	378.44	-2.154	-2.232	0.48	6.82	609527.74	31
UK 2.00%' 35	257.36	-0.434	-0.482	7.22	9.08	609527.74	31
US 0.625%' 24	97.82	2.584	2.580	-0.34	40.98	1608636.64	47
US 3.625%' 28	109.90	1.694	1.695	0.73	16.78	1608636.64	47

Representative stocks from each major market Source: Merill Lynch Global Bond Indices † Local currencies. ‡ Total market value. In line with market convention, for UK Gilts inflation factor is applied to price, for other markets it is applied to par amount.

BONDS: TEN YEAR GOVT SPREADS

	Bid Yield	Spread vs Bund	Spread vs T-Bonds		Bid Yield	Spread vs Bund	Spread vs T-Bonds
Australia	3.53	1.72	-0.22	Netherlands	1.99	0.17	-1.76
Austria	2.27	0.45	-1.48	New Zealand	4.17	2.35	0.42
Canada	2.92	1.10	-0.83	Norway	3.10	1.28	-0.65
Denmark	2.11	0.29	-1.64	Portugal	2.21	0.39	-1.54
Finland	2.31	0.49	-1.44	Spain	2.49	0.67	-1.26
Germany	1.82	0.00	-1.93	Sweden	-0.33	-2.15	-4.08
Italy	1.31	-0.51	-2.44	Switzerland	0.88	-0.94	-2.87
Japan	0.15	-1.66	-3.60	United States	3.75	1.93	0.00

Interactive Data Pricing and Reference Data LLC, an ICE Data Services company.

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MORNINGSTAR®

MANAGED FUNDS SERVICE

SUMMARY

FT.COM/FUNDS

Winners - US Fund Foreign Large Growth

Fund Name	1yr Return GBP	3yr Return GBP	5yr Return GBP	3yr Sharpe Ratio	3yr Std Dev
Baillie Gifford International Concentrated Growth Equities Fund	-33.59	9.33	-	0.36	28.70
Chautauqua International Growth Fund	-15.63	7.13	4.50	0.32	19.28
Fiera Capital International Equity Fund	-12.98	5.46	5.79	0.19	18.29
WCM Focused International Growth Fund	-21.34	5.33	6.11	0.24	21.82
Goldman Sachs GQG Partners International Opportunities Fund	-8.76	5.31	5.43	0.28	16.00

Losers - US Fund Foreign Large Growth

Fund Name	1yr Return GBP	3yr Return GBP	5yr Return GBP	3yr Sharpe Ratio	3yr Std Dev
Invesco International Select Equity Fund	-23.14	-4.71	-2.41	-0.41	19.87
Morgan Stanley Institutional Fund, Inc. International Opportunity Portfolio	-38.02	-3.46	0.55	-0.17	25.29
Columbia Acorn International Select Fund	-28.73	-2.93	0.27	-0.15	25.73
Polen International Growth Fund	-20.09	-2.89	0.10	-0.26	18.70
AB Concentrated International Growth Portfolio	-23.95	-2.12	0.22	-0.20	21.17

Morningstar Star Ratings

Fund Name	Base Currency	Morningstar Rating 3 Yr	Morningstar Rating 5 Yr	Morningstar Rating 10 Yr
Janus Henderson European Selected Opportunities Fund A Acc	Pound Sterling	★★★★	★★★★	★★★
MFM UK Primary Opportunities A Inc	Pound Sterling	★★★★	★★★	★★★
Global Dividend Fund W-ACC-GBP	Pound Sterling	★★★	★★★★	★★★★★
Janus Henderson Sterling Bond Unit Trust Inc	Pound Sterling	★★★	★★	★★
Janus Henderson Asia Pacific Capital Growth Fund A Acc	Pound Sterling	★★	★	★★

Global Broad Category Group - Convertibles

Morningstar Category	Base Currency	Total Ret 1Yr GBP	Total Ret 3Yr GBP	Total Ret 5Yr GBP
World Convertible Bond	Yen	-7.61	5.70	3.09
Japan Convertible Bond	Yen	1.30	3.37	6.08
Convertible Bond - Asia/Japan	US Dollar	11.43	2.95	3.55
Convertible Bond - Global, USD Hedged	US Dollar	-15.60	1.89	1.37
Convertible Bond - Global	US Dollar	-18.33	1.69	1.33

Advertising Feature

TROY ASSET MANAGEMENT

Please remember that past performance is not necessarily a guide to future performance

Firm Name	
Troy Asset Management Limited	
Fund Name	
Trojan Fund O Inc	
Morningstar Category	
GBP Flexible Allocation	
Max Annual Charge	
-	
3Yr Rating	
★★★★★	
Morningstar Sustainability Rating	
-	

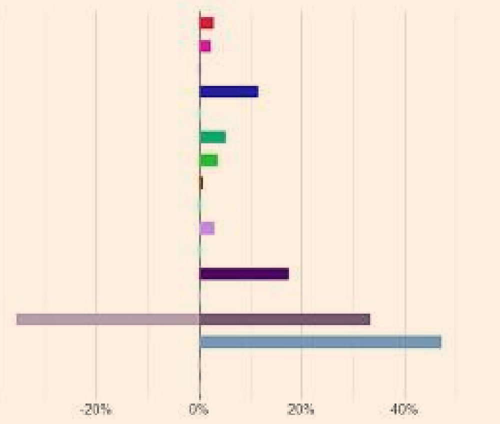
Bid Price	-	KIID Ongoing Charge	1.01
Offer Price	-	Day-End One Year Return	-2.23
+/-	0.17	**Total Ret 3Yr**	5.33

Performance

Fund — Category

Day ↗ 0.06% Month ↗ 0.74% Year ↘ -3.36%

Weightings - As of 30/09/2022



Sector	Weighting	Cat Avg.
Basic Materials	3.00%	3.25%
Communication Services	2.45%	3.10%
Consumer Cyclical	-	5.25%
Consumer Defensive	12.55%	4.24%
Energy	-	3.26%
Financial Services	5.54%	8.15%
Healthcare	3.92%	5.87%
Industrials	0.67%	5.59%
Real Estate	-	2.34%
Technology	3.21%	6.03%
Utilities	-	1.91%
Cash & Equivalents	19.24%	15.31%
Corporate	-	11.07%
Derivative	-2.58%	6.00%
Government	52.00%	17.73%
Municipal	-	0.01%
Securitized	-	0.89%

Risk Measures - As of 31/10/2022

	1Yr	1Yr Cat Ave	3Yr	3Yr Cat Ave	5Yr	5Yr Cat Ave
Alpha	1.92	-2.60	4.34	-1.07	2.78	-1.62
Beta	0.49	0.86	0.54	0.98	0.55	0.97
Information Ratio	1.08	-0.26	0.72	-0.25	0.39	-0.37
R Squared	48.46%	58.21%	57.22%	64.65%	56.64%	64.14%
Sharpe Ratio	-0.48	-0.72	0.80	0.19	0.74	0.25
Std Dev	6.12	9.16	6.19	9.81	5.44	8.89

Top 10 Holdings - As of 30/09/2022

Holding	Sector	Weighting
Unilever PLC	Consumer Defensive	3.48%
Visa Inc Class A	Financial Services	3.07%
Microsoft Corp	Technology	2.91%
Nestle SA	Consumer Defensive	2.87%
Franco-Nevada Corp	Basic Materials	2.72%
Diageo PLC	Consumer Defensive	2.65%
Alphabet Inc Class A	Communication Services	2.22%
Agilent Technologies Inc	Healthcare	1.86%
Becton, Dickinson and Co	Healthcare	1.70%
American Express Co	Financial Services	1.52%

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abrdn Capital (CI) Limited (JER)
PO Box 189, St Helier, Jersey, JE4 9RU 01534 709130
FCA Recognised
abrdn Capital Offshore Strategy Fund Limited

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Bridge Fund	£ 2.1845	-	-0.0014	1.90	-11.31	4.72
Global Equity Fund	£ 3.2662	-	0.0045	1.20	-11.91	7.65
Global Fixed Interest Fund	£ 0.7428	-	0.0005	5.67	-16.15	-4.23
Income Fund	£ 0.6316	-	-0.0004	3.31	-7.20	4.68
Sterling Fixed Interest Fund	£ 0.6916	-	-0.0048	3.74	-18.90	-5.13
UK Equity Fund	£ 1.9855	-	-0.0011	3.79	-5.27	0.34

Algebris Investments (IRL)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Algebris Financial Credit I EUR	€ 172.81	-	0.99	-	-9.92	1.30
Algebris Financial Credit R EUR	€ 148.70	-	0.85	-	-10.53	0.70
Algebris Financial Credit Rd EUR	€ 90.99	-	0.52	-	-10.52	0.75
Algebris Financial Income I EUR	€ 178.14	-	0.87	0.00	-3.03	6.93
Algebris Financial Income R EUR	€ 162.14	-	0.79	0.00	-3.89	5.97
Algebris Financial Income Rd EUR	€ 99.38	-	0.49	4.41	-3.89	5.97
Algebris Financial Equity B EUR	€ 161.20	-	0.65	0.00	8.62	11.90
Algebris IG Financial Credit I EUR	€ 95.23	-	0.75	-	-13.48	-1.63
Algebris IG Financial Credit R EUR	€ 93.78	-	0.75	-	-13.92	-2.12
Algebris Global Credit Opportunities I EUR	€ 123.81	-	0.43	-	-4.26	3.03
Algebris Global Credit Opportunities R EUR	€ 120.88	-	0.42	-	-4.83	2.67
Algebris Global Credit Opportunities Rd EUR	€ 106.26	-	0.37	-	-4.82	2.80
Algebris Core Italy I EUR	€ 142.04	-	0.71	0.00	-14.71	8.80
Algebris Core Italy R EUR	€ 134.86	-	0.66	0.00	-15.33	9.13
Algebris Financial Equity R EUR	€ 135.61	-	0.55	0.00	7.54	10.82

The Antares European Fund Limited
Other International

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
AEF Ltd Usd	$ 546.85	-	16.39	0.00	-4.72	-5.57
AEF Ltd Eur	€ 504.72	-	14.66	0.00	-5.81	-6.26

Artemis Fund Managers Ltd (1200)F (UK)
57 St. James's Street, London SW1A 1LD 0800 092 2051
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Artemis SmartGARP UK Eq I Acc	2345.06	-	3.12	-	6.32	10.54
Artemis Corporate Bond I Acc	99.39	-	0.88	3.02	-13.36	-0.22
Artemis SmartGARP Eur Eq I Acc	412.61	-	1.23	2.99	-1.28	4.10
Artemis European Opps I Acc	122.95	-	0.65	-	-9.78	2.48
Artemis SmartGARP GloEmr Eq I Acc	157.22	-	1.03	-	-6.44	3.08
Artemis SmartGARP Glo Eq I Acc	378.77	-	-1.48	-	-2.39	7.74
Artemis Global Income I Inc	111.07	-	-0.67	4.28	0.85	8.76
Artemis Global Select I Acc	163.62	-	-0.61	0.56	-9.51	7.96
Artemis High Income I Q Inc	68.24	-	0.47	5.81	-10.64	-1.05
Artemis Income I Inc	251.55	-	-0.50	4.26	4.43	4.69
Artemis Monthly Dist I Inc	70.74	-	-0.02	4.75	-3.27	3.35
Artemis Positive Future Fund	67.62	-	-0.03	0.00	-35.55	-
Artemis Strategic Assets I Acc	93.02	-	0.37	-	11.95	2.74
Artemis Strategic Bond I Q Acc	101.05	-	0.47	3.63	-9.87	-1.24
Artemis Target Return Bond I Acc	104.37	-	0.27	2.84	-4.85	-
Artemis UK Select Fund Class I Acc	721.03	-	-1.40	2.19	-9.05	6.29
Artemis UK Smaller Cos I Acc	2002.84	-	1.80	1.77	-7.51	2.31
Artemis UK Special Sits I Acc	743.67	-	-0.62	2.04	-7.21	3.46
Artemis US Abs Return I Hdg Acc	111.40	-	0.18	0.00	-0.47	-1.11
Artemis US Extended Alpha I Acc	328.72	-	-2.42	0.00	-5.44	11.08
Artemis US Select I Acc	292.38	-	-2.41	0.00	-11.66	8.08
Artemis US Smlr Cos I Acc	313.72	-	-2.30	0.00	-17.77	8.21

Ashmore Group
61 Aldwych, London WC2B 4AE. Dealing team: +352 27 62 22 233
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Emerging Markets Equity Fund	$ 113.64	-	1.71	0.00	-29.90	2.00
Emerging Markets Equity ESG Fund	$ 129.02	-	2.46	0.00	-29.98	-
Emerging Markets Active Equity Fund	$ 115.05	-	0.30	0.00	-26.70	-4.38
Emerging Markets Frontier Equity Fund	$ 175.00	-	0.11	0.40	-16.54	1.86
Emerging Markets Blended Debt Fund	$ 51.06	-	0.27	6.88	-25.00	-10.76
Emerging Markets Blended Debt ESG Fund	$ 81.80	-	0.43	0.00	-19.50	-7.77
Emerging Markets Debt Fund	$ 55.82	-	0.17	8.44	-28.01	-11.33
Emerging Markets Corporate Debt Fund	$ 58.06	-	0.06	9.89	-25.82	-8.27
Emerging Markets Local Currency Bond Fund	$ 59.36	-	0.57	4.44	-10.31	-5.17

Atlantas Sicav (LUX)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
American Dynamic	$ 6382.24	-	-60.62	0.00	-21.34	7.05
American One	$ 6595.34	-	-28.60	0.00	-17.45	8.85
Bond Global	€ 1581.48	1581.48	10.04	0.00	2.90	0.69
Eurocroissance	€ 1311.28	-	-15.02	0.00	-18.33	4.54
Far East	$ 939.28	-	-38.13	-	-29.06	-0.35

Blue Whale Investment Funds ICAV (IRE)
www.bluewhale.co.uk, info@bluewhale.co.uk
FCA Recognised - Ireland UCITS

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Blue Whale Growth USD T	$ 8.85	-	-0.01	0.00	-32.66	-

Brooks Macdonald International Fund Managers Limited (JER)
5 Anley Street, St Helier, Jersey, JE2 3QE
+44 (0) 1534 700 104 (Int.) +44 (0) 800 735 8000 (UK)
Brooks Macdonald International Investment Funds Limited

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Euro High Income	€ 1.2271	-	-0.0012	2.50	-15.28	-5.50
High Income	£ 0.6625	-	-0.0058	3.77	-16.73	-5.00
Sterling Bond	£ 1.2609	-	-0.0106	2.06	-16.98	-5.04

Brooks Macdonald International Multi Strategy Fund Limited

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Cautious Balanced Strategy	£ 1.2417	-	-0.0014	0.00	-11.52	-1.33
Cautious Balanced Strategy A	£ 0.8878	-	-0.0010	1.16	-11.09	-
Balanced Strategy	£ 0.9124	-	0.0004	0.09	-8.68	-
Balanced Strategy A	£ 0.9131	-	0.0003	0.60	-8.96	-
Growth Strategy	£ 1.9214	-	0.0021	0.00	-11.33	0.34
Growth Strategy A	£ 0.9181	-	0.0010	0.52	-10.90	-
High Growth Strategy	£ 2.6760	-	0.0033	0.00	-12.48	1.20
High Growth Strategy A	£ 0.9124	-	0.0012	0.13	-12.04	-
US$ Growth Strategy	$ 1.6438	-	0.0072	0.00	-24.40	-1.35

Dealing Daily. Initial Charge Nil for A classes and up to 2% for other classes

Brown Advisory Funds plc (IRL)
http://www.brownadvisory.com Tel: 020 3301 8130
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
US Small Cap Blend Fund USD B	$ 21.77	-	0.02	0.00	-12.18	6.31
US Flexible Equity Fund USD B	$ 22.78	-	0.12	0.00	-17.37	8.31
Global Leaders Fund USD C	$ 19.89	-	0.19	0.00	-16.43	6.34
US Sustainable Growth Fund USD C	$ 22.17	-	0.16	0.00	-29.17	11.00
Global Leaders Sustainable Fund USD C	$ 12.13	-	0.12	0.00	-16.97	6.83
US Equity Growth Fund USD B	$ 45.53	-	0.42	0.00	-31.51	4.30
US Smaller Companies Fund USD B	$ 34.38	-	0.12	0.00	-17.69	6.55
US Mid-Cap Growth Fund USD C	$ 16.40	-	0.10	0.00	-26.03	2.77
Global Sustainable Total Return Bond GBP B	£ 9.42	-	0.01	-	-	-

CG Asset Management Limited (IRL)
25 Moorgate, London, EC2R 6AY
Dealing: Tel. +353 1434 5098 Fax. +353 1542 2859
FCA Recognised
CG Portfolio Fund Plc

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Absolute Return Cls M Inc	£ 135.76	135.76	0.01	1.36	-2.31	4.59
Capital Gearing Portfolio GBP P	£ 37428.89	37428.89	-2.11	1.05	-3.56	4.73
Capital Gearing Portfolio GBP V	£ 182.03	182.03	-0.02	1.05	-3.56	4.73
Dollar Fund Cls D Inc	£ 166.89	166.89	-1.31	1.42	-3.67	2.41
Dollar Hedged GBP Inc	£ 93.39	93.39	0.66	1.71	-13.94	-0.43
Real Return Cls A Inc	£ 200.27	200.27	-1.25	1.46	-3.25	1.86

Candriam Investors Group (LUX)
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Candriam Eqts L Australia Cap	A$ 1904.82	-	-2.89	0.00	2.50	9.03

Candriam Investors Group
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Candriam Eqts L Emerging Mkts Cap	€ 863.69	-	-1.29	0.00	-25.20	0.58
Candriam Bonds Credit Opportunities	€ 194.72	-	0.34	0.00	-4.01	-0.94
Candriam Bds Euro High Yield Cap	€ 1168.50	-	6.79	0.00	-8.33	-0.74
Candriam Bds Euro Sh.Term Cap	€ 1988.67	-	2.05	-	-3.95	-1.61

Chartered Asset Management Pte Ltd
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
CAM-GTF VCC	$ 276934.95	276934.95	-141.90	-	-6.36	3.78
CAM GTi VCC	$ 780.49	-	-32.39	-	12.31	4.69
RAIC VCC	$ 1.64	1.64	0.03	2.06	5.74	-1.66

Consistent Unit Tst Mgt Co Ltd (1200)F (UK)
Stuart House, St John's Street, Peterborough, PE1 5DD
Dealing & Client Services 0345 850 8818
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Consistent UT Inc	62.73	62.73	0.16	0.59	-15.68	7.99
Consistent UT Acc	169.20	169.20	0.40	0.59	-15.70	7.98
Practical Investment Inc	236.70	236.70	-0.30	3.73	-6.48	4.88
Practical Investment Acc	1482.00	1482.00	-2.00	3.73	-6.50	4.17

CP Global Asset Management Pte. Ltd.
www.cpglobal.com.sg, Email: customer_support@cpglobal.com.sg
International Mutual Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
CP Multi-Strategy Fund	$ 296.82	-	-0.53	-	8.10	13.71

CP Capital Asset Management Limited
www.cpgbl.com, email: fundservices@cpgbl.com
International Mutual Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
CPS Master Private Fund	$ 413.38	-	-5.30	-	9.90	13.56
CP Global Alpha Fund	$ 338.86	-	-4.79	-	9.30	13.58

DWS (LUX)
Tel: +44 (0) 20 7541 8999 www.dws.com
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
DWS Invest Top Dividend	£ 156.01	156.01	-0.51	2.99	9.03	5.81
DWS Invest Top Euroland	£ 151.88	151.88	0.02	0.93	-11.72	4.02
DWS Invest Multi Opportunities	£ 113.34	113.34	0.35	0.00	-3.91	1.90
DWS Invest Global Bonds	£ 91.82	91.82	0.42	0.00	-11.84	-3.85

Dodge & Cox Worldwide Funds (IRL)
48-49 Pall Mall, London SW1Y 5JG.
www.dodgeandcox.worldwide.com 020 3713 7664
FCA Recognised
Dodge & Cox Worldwide Funds plc - Global Bond Fund

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
EUR Accumulating Class	€ 15.79	-	-0.07	0.00	-1.37	2.44
EUR Accumulating Class (H)	€ 10.24	-	0.06	-	-10.57	-1.18
EUR Distributing Class	€ 11.58	-	-0.05	0.96	-4.15	1.48
EUR Distributing Class (H)	€ 7.44	-	0.04	-	-13.42	-2.24
GBP Distributing Class	£ 12.23	-	-0.11	0.87	-1.69	1.61
GBP Distributing Class (H)	£ 7.96	-	0.04	1.16	-12.61	-1.53
USD Accumulating Class	$ 11.85	-	0.06	0.00	-8.78	0.48

Dodge & Cox Worldwide Funds plc-Global Stock Fund

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
USD Accumulating Share Class	$ 28.44	-	0.16	-	-5.14	7.87
GBP Accumulating Share Class	£ 38.78	-	-0.35	0.00	5.21	10.12
GBP Distributing Share class	£ 26.17	-	-0.23	-	4.42	9.86
EUR Accumulating Share Class	€ 41.06	-	-0.17	-	2.60	9.98
GBP Distributing Class (H)	£ 13.22	-	0.08	0.57	-7.71	5.65

Dodge & Cox Worldwide Funds plc-U.S. Stock Fund

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
USD Accumulating Share Class	$ 38.67	-	0.13	0.00	-4.33	11.12
GBP Accumulating Share Class	£ 49.86	-	-0.57	-	6.13	13.45
GBP Distributing Share Class	£ 29.93	-	-0.34	0.16	5.54	13.23
EUR Accumulating Share Class	€ 48.20	-	-0.32	0.00	3.46	13.29
GBP Distributing Class (H)	£ 15.37	-	0.05	0.20	-6.78	8.87

Dragon Capital
www.dragoncapital.com
Fund information:info@dragoncapital.com
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Vietnam Equity (UCITS) Fund A USD	$ 21.71	-	0.41	0.00	-46.68	-1.29

EdenTree Investment Management Ltd (UK)
PO Box 3733, Swindon, SN4 4BG, 0800 358 3010
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Amity Balanced For Charities A Inc	97.57	-	-0.29	5.92	-9.12	0.45
Amity Global Equity Inc for Charities A Inc	155.60	-	0.10	2.91	-4.37	6.97
EdenTree European Equity Cls A Inc	303.40	-	-0.10	-	-1.75	6.42
EdenTree European Equity Cls B Inc	307.10	-	-0.10	-	-1.24	7.09
EdenTree Global Equity Cls A Inc	314.80	-	0.20	0.08	-16.59	3.89
EdenTree Global Equity Cls B Inc	317.60	-	0.20	0.69	-16.16	4.51
EdenTree Responsible and Sust S Dtd Bd B	93.16	-	-0.22	-	-5.11	-1.33
EdenTree Sterling Bond Cls A Inc	86.55	-	-0.35	-	-13.17	-2.86
EdenTree Sterling Bond Cls B Inc	97.66	-	-0.39	3.92	-12.67	-2.25
EdenTree UK Equity Cls A Inc	218.00	-	-0.40	1.03	-16.34	-2.85
EdenTree UK Equity Cls B Inc	217.60	-	-0.40	1.73	-15.84	-2.24
EdenTree UK Equity Opps Cls A Inc	271.10	-	-0.90	0.94	-23.38	-2.49
EdenTree UK Equity Opps Cls B Inc	276.90	-	-0.90	1.68	-22.96	-1.88
Edentree Global Impact Bond B	85.66	-	-0.16	-	-	-
Edentree Green Future B Net Inc	100.10	-	0.19	-	-	-
EdenTree Managed Income Cls A Inc	120.30	-	-0.10	5.20	-7.75	0.84
EdenTree Managed Income Cls B Inc	128.30	-	-0.10	5.19	-7.32	1.35

Euronova Asset Management UK LLP (CYM)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Smaller Cos Cls One Shares	€ 51.85	-	-1.39	0.00	-21.25	3.94
Smaller Cos Cls Two Shares	€ 33.10	-	-0.89	0.00	-21.27	2.36
Smaller Cos Cls Three Shares	€ 16.52	-	-0.44	0.00	-21.97	2.06
Smaller Cos Cls Four Shares	€ 21.77	-	-0.59	0.00	-20.17	2.94

Fidelity Investments International
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Emerging Mkts NAV	£ 7.21	-	-0.16	2.07	-25.10	-5.64

FIL Investment Services (UK) Limited (1200)F (UK)
Beech Gate, Millfield Lane, Lower Kingswood, Tadworth, KT20 6RP
Callfree: Private Clients 0800 414161
Broker Dealings: 0800 414 181
OEIC Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Allocator World Fund W-ACC-GBP	£ 2.63	-	0.00	1.01	-6.87	7.61
American Fund W-ACC-GBP	£ 51.88	-	0.16	0.00	-21.37	3.37
American Special Sits W-ACC-GBP	£ 23.24	-	0.07	-	12.82	12.76
Asia Fund W-ACC-GBP	£ 14.65	-	-0.03	0.32	-19.42	0.27
Asia Pacific Ops W-Acc	£ 2.77	-	0.01	0.56	-11.52	8.26
Asian Dividend Fund W-ACC-GBP	£ 2.24	-	0.01	3.22	-3.81	3.50
Cash Fund W-ACC-GBP	£ 1.03	-	0.00	0.00	1.01	0.41
China Consumer Fund W-ACC-GBP	£ 2.38	-	-0.02	-	-30.81	-7.73
Emerg Europe, Middle East and Africa Fund W-ACC-GBP	£ 1.66	-	0.01	4.94	-46.46	-9.69
Emerging Asia Fund W-ACC-GBP	£ 1.79	-	-0.01	0.33	-16.29	3.38
Enhanced Income Fund W-INC-GBP	£ 0.86	-	0.00	6.24	6.65	3.48
European Fund W-ACC-GBP	£ 23.29	-	0.06	-	-1.02	8.79
Extra Income Fund W-ACC-GBP	£ 1.26	-	0.00	4.02	-14.42	-2.68
Global Dividend Fund W-ACC-GBP	£ 2.96	-	0.00	2.63	3.13	6.71
Global Enhanced Income W-ACC-GBP	£ 2.30	-	-0.01	4.29	3.60	5.86
Global High Yield Fund W-ACC-GBP	£ 13.49	-	0.02	5.84	-14.51	-3.35
Global Property Fund W-ACC-GBP	£ 1.90	-	0.00	1.62	-16.54	-2.42
Global Special Sits W-ACC-GBP	£ 53.89	-	0.09	0.30	-8.08	8.47
Index Emerging Markets P-ACC-GBP	£ 1.62	-	0.01	2.59	-14.86	0.47
Index Europe ex UK P-ACC-GBP	£ 1.84	-	0.00	2.08	-5.72	5.82
Index Japan P-ACC-GBP	£ 1.87	-	-0.01	-	-8.29	1.99
Index Pacific ex Japan P-Acc-GBP	£ 1.90	-	0.00	-	0.92	3.99
Index Sterling Corporate Bond Fund P-ACC-GBP	£ 0.84	-	0.00	2.03	-17.20	-
Index UK Gilt Fund P-ACC-GBP	£ 0.78	-	-0.01	0.59	-20.17	-
Index UK P-ACC-GBP	£ 1.56	-	0.00	3.32	2.39	3.59
Index US P-ACC-GBP	£ 3.46	-	0.01	1.07	-4.32	12.80
Index World P-ACC-GBP	£ 2.68	-	0.00	1.42	-5.23	9.93
Japan Fund W-ACC-GBP	£ 5.56	-	-0.03	-	-2.36	9.32
Japan Smaller Companies Fund W-ACC-GBP	£ 3.53	-	-0.02	0.64	-18.44	-0.18
MoneyBuilder Balanced Fund W-ACC-GBP	£ 0.60	-	0.00	3.06	-3.79	0.49
MoneyBuilder Dividend Fund W-INC-GBP	£ 1.29	-	0.01	-	6.68	4.01
Multi Asset Allocator Adventurous Fund W-ACC-GBP	£ 2.10	-	0.00	0.91	-8.09	5.48
Multi Asset Allocator Defensive Fund W-ACC-GBP	£ 1.30	-	0.00	0.96	-11.70	-1.28
Multi Asset Allocator Growth Fund W-ACC-GBP	£ 1.82	-	0.00	0.89	-9.35	3.15
Multi Asset Allocator Strategic Fund W-ACC-GBP	£ 1.57	-	0.00	0.84	-10.60	0.89
Multi Asset Balanced Income Fund W-INC-GBP	£ 0.95	-	0.00	4.27	-10.63	-1.52
Multi Asset Income & Growth Fund W-INC-GBP	£ 1.01	-	0.00	4.47	-9.22	-0.16
Multi Asset Income Fund W-INC-GBP	£ 0.88	-	0.00	5.22	-13.69	-2.78
Multi Asset Open Advent W-ACC-GBP	£ 1.71	-	0.00	0.91	-4.36	4.81
Multi Asset Open Defen W-ACC-GBP	£ 1.32	-	0.01	1.17	-7.51	0.64
Multi Asset Open Growth Fund W-ACC-GBP	£ 1.63	-	0.01	1.11	-4.41	4.47
Multi Asset Open Strategic Fund W-ACC-GBP	£ 1.48	-	0.00	1.27	-5.96	2.26
Open World Fund W-ACC-GBP	£ 2.24	-	0.01	0.59	-4.15	7.59
Select 50 Balanced Fund PI-ACC-GBP	£ 1.13	-	0.00	1.04	-8.66	1.40
Short Dated Corporate Bond Fund W-ACC-GBP	£ 10.43	-	-0.05	-	-6.52	-0.97
Special Situations Fund W-ACC-GBP	£ 42.49	-	0.00	2.08	0.59	4.22
Strategic Bond Fund W-ACC-GBP	£ 1.17	-	0.00	2.27	-15.14	-3.01
Sustainable European Equity Fund W-ACC-GBP	£ 5.28	-	0.01	0.71	-9.82	3.44
Sustainable Global Equity Fund W-ACC-GBP	£ 32.79	-	0.07	0.00	-10.85	8.21
Sustainable MoneyBuilder Income Fund W-ACC-GBP	£ 12.20	-	-0.09	3.71	-17.57	-4.12
Sustainable Multi Asset Balanced Fund W-ACC-GBP	£ 0.93	-	0.00	0.15	-11.30	-
Sustainable Multi Asset Conservative Fund W-ACC-GBP	£ 0.90	-	0.00	0.16	-12.70	-
Sustainable Multi Asset Growth Fund W-ACC-GBP	£ 0.95	-	0.00	0.08	-10.91	-
Sustainable Water & Waste W-ACC-GBP	£ 1.13	-	0.00	0.15	-16.25	-
UK Opportunities Fund W-ACC-GBP	247.40	-	-1.00	1.26	-19.44	2.08
UK Select Fund W-ACC-GBP	£ 3.68	-	0.01	2.13	-3.05	3.65
UK Smaller Companies W-ACC-GBP	£ 3.48	-	-0.01	1.20	-8.56	9.77

Findlay Park Funds Plc (IRL)
30 Herbert Street, Dublin 2, Ireland Tel: 020 7968 4900
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
American EUR Unhedged Class	€ 155.86	-	-0.84	0.00	-11.87	-
American Fund USD Class	$ 161.69	-	0.53	0.00	-18.83	6.81
American Fund GBP Hedged	£ 79.48	-	0.26	0.00	-20.53	5.20
American Fund GBP Unhedged	£ 134.00	-	-1.64	0.00	-10.05	9.03

Foord Asset Management
Website: www.foord.com - Email: info@foord.com
FCA Recognised - Luxembourg UCITS

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Foord International Fund | R	$ 48.68	-	0.19	0.00	1.09	4.84
Foord Global Equity Fund (Lux) | R	$ 15.58	-	0.03	0.00	-17.62	-

Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Foord Global Equity Fund (Sing) | B	$ 18.57	-	0.04	0.00	-17.74	4.07
Foord International Trust (Gsy)	$ 47.44	-	0.18	0.00	1.13	4.83

Fundsmith Equity Fund

Fundsmith LLP (1200)F (UK)
PO Box 10846, Chelmsford, Essex, CM99 2BW 0330 123 1815
www.fundsmith.co.uk, enquiries@fundsmith.co.uk
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Fundsmith Equity T Acc	571.73	-	2.12	0.05	-13.36	7.80
Fundsmith Equity T Inc	521.72	-	1.94	0.05	-13.36	7.80

GAM
funds@gam.com, www.funds.gam.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
LAPIS GBL TOP 50 DIV.YLD-Na-D	£ 127.62	-	-1.62	-	15.34	7.76
LAPIS GBL F OWD 50 DIV.YLD-Na-D	£ 99.61	-	0.16	-	-11.74	0.74

Guinness Global Investors

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Guinness Global Equity Income Y GBP Dist	£ 18.89	-	-0.08	2.34	6.49	11.65
Guinness Global Innovators Y GBP Acc	£ 24.97	-	-0.13	0.00	-18.21	10.11
Guinness Sustainable Global Equity Y GBP Acc	£ 11.23	-	-0.02	0.00	-12.10	-

HPB Assurance Ltd
Anglo Intl House, Bank Hill, Douglas, Isle of Man, IM1 4LN 01638 563490
International Insurances

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Holiday Property Bond Ser 1	£ 0.48	-	0.00	0.00	1.26	-2.57
Holiday Property Bond Ser 2	£ 0.63	-	0.00	0.00	0.32	-0.63

Hermes Property Unit Trust (UK)
Property & Other UK Unit Trusts

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Property	£ 7.87	8.48	0.04	-	18.73	5.43

Janus Henderson Investors (UK)
PO Box 9023, Chelmsford, CM99 2WB Enquiries: 0800 832 832
www.janushenderson.com
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Janus Henderson Asia Pacific Capital Growth Fund A Acc	1102.00	-	1.00	0.00	-18.07	-2.09
Janus Henderson Asian Dividend Income Unit Trust Inc	79.08	-	0.23	6.79	-7.31	-1.81
Janus Henderson Cautious Managed Fund A Acc	280.40	-	-1.10	3.13	-5.24	0.66
Janus Henderson Cautious Managed Fund A Inc	139.10	-	-0.60	3.19	-5.23	0.90
Janus Henderson China Opportunities Fund A Acc	1085.00	-	-7.00	0.00	-32.02	-8.75
Janus Henderson Emerging Markets Opportunities Fund A Acc	189.80	-	0.20	0.00	-22.15	-0.59
Janus Henderson European Growth Fund A Acc	281.40	-	0.50	-	-4.09	5.77
Janus Henderson European Selected Opportunities Fund A Acc	2125.00	-	5.00	1.33	-6.72	6.00
Janus Henderson Fixed Interest Monthly Income Fund Inc	17.64	-	-0.02	5.28	-17.81	-3.62
Janus Henderson Global Equity Fund Acc	4344.00	-	9.00	0.00	-14.23	8.28
Janus Henderson Global Equity Income Fund A Inc	65.82	-	0.08	3.46	2.82	5.79
Janus Henderson Global Sustainable Equity Fund A Inc	464.90	-	0.70	0.00	-14.02	10.50
Janus Henderson Global Technology Fund A Acc	2716.00	-	4.00	0.00	-23.51	8.57
Janus Henderson Instl UK Idx Opps A Acc	£ 1.12	-	0.00	3.13	0.64	-
Janus Henderson Multi-Asset Absolute Return Fund A Acc	160.90	-	-0.50	-	1.39	4.13
Janus Henderson Multi-Manager Active Fund A Acc	252.70	-	0.60	0.00	-8.87	2.33
Janus Henderson Multi-Manager Distribution Fund A Inc	124.90	-	0.20	2.58	-8.82	-0.20
Janus Henderson Multi-Manager Diversified Fund A Acc	86.15	-	0.07	2.50	-9.93	-1.10
Janus Henderson Multi-Manager Global Select Fund Acc	307.00	-	1.30	0.00	-8.00	5.99
Janus Henderson Multi-Manager Income & Growth Fund A Acc	185.90	-	0.40	2.41	-7.92	0.34
Janus Henderson Multi-Manager Income & Growth Fund A Inc	145.50	-	0.30	2.45	-8.63	0.09
Janus Henderson Multi-Manager Managed Fund A Acc	309.20	-	0.50	0.00	-8.03	1.84
Janus Henderson Multi-Manager Managed Fund A Inc	299.30	-	0.50	0.00	-8.02	1.85
Janus Henderson Sterling Bond Unit Trust Acc	205.40	-	-1.30	1.49	-17.14	-4.74
Janus Henderson Sterling Bond Unit Trust Inc	56.36	-	-0.38	1.51	-17.17	-4.75
Janus Henderson Strategic Bond Fund A Inc	104.60	-	-0.20	3.48	-16.20	-3.26
Janus Henderson Absolute Return Fund A Acc	165.00	-	0.00	0.00	-1.32	1.67
Janus Henderson UK Alpha Fund A Acc	135.90	-	-0.90	1.26	-21.81	-3.06
Janus Henderson UK Equity Income & Growth Fund A Inc	517.10	-	2.00	5.00	2.55	2.43
Janus Henderson UK Property PAIF A Acc	£ 2.65	2.78	0.00	2.63	13.53	4.26
Janus Henderson UK Property PAIF A Inc	£ 1.06	1.11	0.00	2.68	13.53	4.32
Janus Henderson US Growth Fund A Acc	1626.00	-	5.00	0.00	-22.05	6.95

Kleinwort Hambros Bank Limited (UK)
5TH Floor, 8 St James's Square, London, SW1Y 4JU
Dealing and enquiries: 033 0024 0785
Authorised Inv Funds
Unit Trust Manager/ACD - Host Capital

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
HC Kleinwort Hambros Growth A Acc	237.73	-	-0.02	1.36	-8.82	2.90
HC Kleinwort Hambros Growth A Inc	215.69	-	-0.02	1.38	-8.82	2.90
HC Kleinwort Hambros Equity Income A Inc	96.85	-	0.28	3.06	-1.27	1.28
HC Kleinwort Hambros Equity Income A Acc	191.64	-	0.55	4.50	-1.27	1.28
HC Kleinwort Hambros Multi Asset Balanced A Acc	170.24	-	0.26	0.81	-9.19	0.65
HC Kleinwort Hambros Multi Asset Balanced A Inc	160.92	-	0.25	0.81	-9.19	0.65
HC Kleinwort Hambros Fixed Income A Acc	123.72	-	0.54	3.44	-9.89	-2.65
HC Kleinwort Hambros Fixed Income A Inc	93.73	-	0.41	3.44	-9.89	-2.65

Lazard Fund Managers Ltd (1200)F (UK)
P.O. Box 364, Darlington, DL1 9RD
Dealing: 0870 6066408, Info: 0870 6066459
Authorised Inv Funds
Lazard Investment Funds (OEIC) B Share Class

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Developing Markets Acc	111.80	-	0.00	0.56	-18.75	-3.62
Developing Markets Inc	109.47	-	-0.01	0.61	-18.76	-3.62
Emerging Markets Acc	341.33	-	2.12	5.18	-6.41	-0.30
Emg Mkts Inc	257.15	-	1.60	5.43	-6.41	-0.30
European Alpha Acc	1007.57	-	1.92	1.43	-6.83	4.08
European Alpha Inc	862.75	-	1.65	1.44	-6.82	4.08
European Smaller Cos Acc	653.34	-	-1.30	1.25	-22.57	2.20
Global Equity Income Acc	226.44	-	0.26	3.89	-3.18	7.04
Global Equity Income Inc	114.32	-	0.13	3.99	-3.19	7.02
Managed Bal Inc	182.60	-	-0.81	2.11	-9.73	3.13
UK Income Acc	1572.42	-	-0.81	4.34	0.07	1.92
UK Income Inc	571.87	-	-0.30	4.46	0.07	1.91
UK Omega Acc	273.60	-	-0.30	2.11	-2.12	2.34
UK Omega Inc	225.92	-	-0.25	2.15	-2.13	2.33
UK Smaller Cos Inc	2001.70	-	8.44	0.40	-24.24	1.74

Lothbury Property Trust (UK)
155 Bishopsgate, London EC2M 3TQ +44(0) 20 3551 4900
Property & Other UK Unit Trusts

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Lothbury Property Trust GBP	£ 1925.43	1978.32	-159.01	2.82	-1.14	-0.30

M & G Securities (1200)F (UK)
PO Box 9038, Chelmsford, CM99 2XF
www.mandg.co.uk/charities Enq./Dealing: 0800 917 4472
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Charifund Inc	1473.46	-	8.84	5.61	1.96	2.89
Charifund Acc	29023.67	-	174.06	4.71	1.95	2.89
M&G Charibond Charities Fixed Interest Fund (Charibond) Inc	£ 1.11	-	0.00	2.03	-7.01	-1.70
M&G Charibond Charities Fixed Interest Fund (Charibond) Acc	£ 39.39	-	-0.28	1.62	-7.01	-1.65
M&G Charity Multi Asset Fund Inc	£ 0.89	-	0.00	3.89	2.09	4.64
M&G Charity Multi Asset Fund Acc	£ 106.19	-	0.23	3.74	2.09	4.65

MANAGED FUNDS SERVICE

MMIP Investment Management Limited (GSY)
Regulated
Multi-Manager Investment Programmes PCC Limited

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
UK Equity Fd Cl A Series 01	£2810.68	2842.19	142.84	0.00	-14.59	-0.37
Diversified Absolute Rtn Fd USD Cl AF2	$1588.98	-	5.05	-	-9.74	-0.92
Diversified Absolute Return Stlg Cell AF2	£1474.75	-	6.33	-	-10.49	-1.95
Global Equity Fund A Lead Series	£1721.66	1727.57	67.75	0.00	-7.60	3.14

Marlborough Investment Management Limited (UK)
Marlborough, PO BOX 1852 Lichfield, Staffordshire, England, WS13 8XU. 0808 145 2500.
www.marlboroughfunds.com
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Balanced	221.52	221.52	0.26	0.18	-9.25	2.31
Bond Income	41.61	41.61	-0.24	3.88	-16.55	-4.83
Cautious Inc	83.22	83.22	0.06	1.46	-8.05	-0.45
Emerging Markets	331.00	331.00	1.45	1.00	-8.04	2.87
Conservative P Acc	91.99	-	-0.03	0.00	-9.15	-
European Multi-Cap	669.61	669.61	0.54	1.27	-16.63	12.61
Extra Income	87.19	87.19	0.03	4.17	-2.47	3.88
Far East Growth A Inc	223.32	223.32	-0.07	1.24	-18.14	-0.11
Global	289.49	289.49	0.14	0.00	-13.59	4.00
Global Bond Inc	135.65	135.65	-0.03	2.78	-10.18	-3.05
High Yield Fixed Interest	62.42	62.42	0.11	4.51	-9.49	-0.68
Marlborough Technology Fund A	845.16	845.16	4.97	0.00	-25.62	15.50
Multi Cap Income A Inc	121.07	121.07	-0.16	5.28	-17.32	-3.43
Nano-Cap Growth A Acc	197.50	197.50	-10.34	0.00	-28.08	4.75
Special Situations A Acc	1678.20	1678.20	-0.05	0.00	-28.91	0.67
UK Multi-Cap Growth A Inc	352.39	352.39	-0.95	0.08	-22.19	0.42
UK Micro Cap Growth A	760.66	760.66	4.15	0.00	-34.06	1.80
US Multi-Cap Income	736.85	736.85	2.36	1.44	-3.88	9.60
MFM - Third Party Funds						
Junior Gold C Acc	29.90	29.90	0.40	0.00	-40.57	1.14
MFM Bowland	326.95	326.95	-0.51	0.93	-14.33	6.52
MFM Hathaway Inc	145.71	145.71	2.70	0.93	-14.45	-0.26
MFM UK Primary Opportunities A Inc	422.14	422.14	-0.39	1.02	-15.21	0.51

Marwyn Asset Management Limited (CYM)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Marwyn Value Investors	£329.72	-	-6.14	0.00	-	-7.17

McInroy & Wood Portfolios Limited (UK)
Easter Alderston, Haddington, EH41 3SF 01620 825867
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Balanced Fund Personal Class Units	5919.80	-	-6.30	1.40	-3.50	6.12
Income Fund Personal Class Units	2886.70	-	2.00	2.40	1.06	4.70
Emerging Markets Fund Personal Class Units	2265.40	-	1.60	1.48	-4.78	2.33
Smaller Companies Fund Personal Class Units	6063.70	-	3.50	1.30	-21.28	2.12

Milltrust International Managed Investments ICAV (IRL)
mimi@milltrust.com, +44(0)20 8123 8316 www.milltrust.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
British Innovation Fund	£121.92	-	2.89	0.00	-	-
MAI - Buy & Lease (Australia)	A$103.45	-	0.50	0.00	-16.53	1.41
MAI - Buy & Lease (New Zealand)	NZ$ 91.20	-	-6.06	0.00	-7.20	-2.67
Milltrust Global Emerging Markets Fund - Class A	$ 89.54	-	0.54	0.00	-23.95	-0.34

Milltrust International Managed Investments SPC
em@milltrust.com, +44(0)20 8123 8316, www.milltrust.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Milltrust Alaska Brazil SP A	$ 76.20	-	0.10	0.00	16.13	-
Milltrust Laurium Africa SP A	$103.93	-	-0.10	0.00	5.42	-
Milltrust Marcellus India Fund	$128.07	-	0.28	0.00	-12.69	-
Milltrust Singular ASEAN SP Founders	$129.78	-	2.35	0.00	-21.05	-
Milltrust SPARX Korea Equity SP A	$104.00	-	2.07	0.00	-32.60	-
Milltrust Xingtai China SP A	$ 92.16	-	2.11	0.00	-	-
The Climate Impact Asia Fund SP (Class A)	$ 74.27	-	0.42	0.00	-28.28	-
The Climate Impact Asia Fund (Class B)	$ 73.69	-	0.41	0.00	-28.63	-

Ministry of Justice Common Investment Funds (UK)
Property & Other UK Unit Trusts

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
The Equity Idx Tracker Fd Inc	1882.00	-	-3.00	2.63	-4.87	3.97

Distribution Units

Mirabaud Asset Management (LUX)
www.mirabaud.com, marketing@mirabaud-am.com
Conviction based investment vehicles details available here www.mirabaud-am.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Mir. - Glb Strat. Bd I USD	$114.52	-	0.67	-	-7.77	-0.09
Mir. - DiscEur D Cap GBP	£164.19	-	1.01	0.00	-23.46	5.61
Mirabaud - UK Equity High Alpha	£138.87	-	1.24	0.00	-16.29	2.52

Oasis Crescent Global Investment Funds (UK) ICVC (UK)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Oasis Crescent Global Equity Fund USD A (Dist)	$ 34.76	-	0.08	0.25	-9.86	3.34
Oasis Crescent Global Income Fund USD A (Dist)	$ 9.96	-	0.00	2.74	-7.02	-0.20
Oasis Crescent Global Low Equity Fund USD D (Dist)	$ 12.22	-	0.02	0.62	-9.64	0.39
Oasis Crescent Global Medium Equity Fund USD A (Dist)	$ 13.57	-	0.03	0.15	-9.24	1.37
Oasis Crescent Global Property Equity Fund USD A (Dist)	$ 7.80	-	0.06	0.98	-24.41	-4.05
Oasis Crescent Global Short Term Income Fund USD A (Dist)	$ 0.94	-	0.00	1.87	-2.57	0.07
Oasis Crescent Variable Fund GBP A (Dist)	£ 9.70	-	0.01	0.18	-6.77	-0.30

Omnia Fund Ltd
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Estimated NAV	$946.10	-	-9.48	0.00	32.62	10.45

Orbis Investments (U.K.) Limited (GBR)
28 Dorset Square, London, NW1 6QG
www.orbis.com 0800 358 2030
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Orbis OEIC Global Cautious Standard	£ 11.76	-	0.01	0.00	7.14	5.00
Orbis OEIC Global Balanced Standard	£ 19.11	-	0.02	-	11.87	10.09
Orbis OEIC Global Equity Standard	£ 21.57	-	0.01	1.99	-0.95	8.33
Orbis OEIC UK Equity Standard	£ 11.24	-	-0.02	3.45	4.24	10.70

Platinum Capital Management Ltd
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Platinum All Star Fund - A	$141.55	-	-	-	-14.05	2.28
Platinum Global Growth UCITS Fund	$ 8.25	-	0.02	0.00	-39.34	-8.76
Platinum Essential Resources UCITS Fund SICAV USD Class E	$ 11.87	-	-0.08	0.00	25.87	9.46
Platinum Global Dividend UCITS Fund	$ 48.73	-	0.06	0.00	-17.41	-5.12

Polar Capital Funds Plc (IRL)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Automation & Artificial Intelligence CL I USD Acc	$ 14.45	14.45	0.17	0.00	-30.86	6.21
Asian Starts I USD Acc $	$ 13.79	-	0.19	0.00	-28.36	5.51
Biotechnology I USD	$ 37.26	37.26	-0.03	0.00	-7.34	14.06
China Stars I USD Acc $	$ 10.12	10.12	0.03	0.00	-30.40	-1.50
Emerging Market Stars I USD Acc	$ 10.97	-	0.16	0.00	-29.13	2.69
European Ex UK Inc EUR Acc	€ 14.12	14.12	0.04	-	5.14	3.35
Financial Opps I USD	$ 13.87	-	0.07	2.74	-14.59	2.38
Global Convertible I USD	$ 13.52	13.52	0.02	0.00	-16.80	0.75
Global Insurance I GBP	£ 10.08	-	-0.10	0.00	21.61	10.32
Global Technology I USD	$ 62.53	-	0.93	0.00	-36.33	6.08
Healthcare Blue Chip Fund I USD Acc	$ 18.15	18.15	0.08	0.00	-2.42	8.78
Healthcare Dis I Acc USD $	$ 11.76	-	0.12	-	-21.50	-
Healthcare Opps I USD	$ 63.61	-	0.48	-	-5.74	7.66
Income Opportunities B2 I GBP Acc	£ 2.90	2.90	-0.01	0.00	1.60	7.11
Japan Value I JPY	¥144.43	144.43	0.07	0.00	9.75	5.30
North American I USD	$ 32.87	32.87	0.21	0.00	-15.13	8.05
Smart Energy I USD Acc $	$ 9.23	9.23	0.10	0.00	-15.94	-
Smart Mobility I USD Acc $	$ 8.64	8.64	0.07	0.00	-22.86	-
UK Val Opp I GBP Acc	£ 12.04	12.04	0.05	0.00	-16.10	-0.06

Private Fund Mgrs (Guernsey) Ltd (GSY)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Monument Growth 22/11/2022	£545.21	550.55	1.04	1.11	-3.60	3.33

Prusik Investment Management LLP (IRL)
Enquiries - 0207 493 1331
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Prusik Asian Equity Income B Dist	$173.09	-	-0.24	5.08	-4.25	0.78
Prusik Asia Emerging Opportunities Fund A Acc	$180.28	-	0.82	0.00	-22.42	4.58
Prusik Asia Fund U Dist.	£205.63	-	-0.27	0.00	-24.26	5.32
Prusik Asia Sustainable Growth Fund A Acc	$ 86.24	-	-0.22	-	-	-

Purisima Investment Fds (UK) (1200)F (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 922 0044
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Global Total Fd PCG A	371.79	-	0.92	0.00	-15.81	10.12
Global Total Fd PCG B	366.48	-	0.90	0.00	-16.02	9.85
Global Total Fd PCG INT	359.75	-	0.88	0.00	-16.22	9.57

Purisima Investment Fds (CI) Ltd (JER)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
PCG B ✠	278.93	-	-2.01	0.00	-23.31	6.15
PCG C ✠	271.36	-	-1.96	0.00	-23.48	5.92

Ram Active Investments SA
www.ram-ai.com
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
RAM Systematic Emerg Markets Eq	$206.89	206.89	2.40	-	-13.75	5.41
RAM Systematic European Eq	€514.34	514.34	2.62	-	-14.31	3.53
RAM Systematic Funds Global Sustainable Income Eq	$149.48	149.48	0.57	0.00	-7.63	4.47
RAM Systematic Global Eq Sustainable Alpha	$108.60	108.60	-0.23	-	-2.50	-1.67
RAM Systematic Long/Short European Eq	€150.70	150.70	-1.23	-	-0.53	1.60
RAM Systematic US Sustainable Eq	$345.04	345.04	-0.01	-	-21.14	3.09
RAM Tactical Global Bond Total Return	€138.18	138.18	0.22	-	-9.24	-2.19
RAM Tactical II Asia Bond Total Return	$140.53	140.53	0.07	-	-9.67	-2.29

Royal London (UK)
55 Gracechurch Street, London, EC3V rlam.co.uk
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Royal London Sustainable Diversified A Inc	£ 2.31	-	0.00	0.65	-14.68	2.79
Royal London Sustainable World A Inc	339.40	-	0.40	0.00	-15.64	6.40
Royal London Corporate Bond Mth Income	75.54	-	-0.32	4.39	-14.98	-3.42
Royal London European Growth Trust	197.70	-	0.40	-	-6.66	6.33
Royal London Sustainable Leaders A Inc	759.70	-	-1.00	1.08	-8.62	4.85
Royal London UK Growth Trust	617.80	-	-0.10	2.17	-8.22	2.64
Royal London UK Income With Growth Trust	211.40	-	-0.50	5.14	2.45	3.40
Royal London US Growth Trust	365.50	-	1.20	0.00	-6.74	12.55

Additional Funds Available
Please see www.royallondon.com for details

Ruffer LLP (1000)F (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 601 9610
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
LF Ruffer Diversified Rtrn C Acc	106.04	-	-0.32	0.85	3.09	-
LF Ruffer Diversified Rtrn C Inc	105.15	-	-0.32	0.94	3.08	-
LF Ruffer European C Acc	763.13	-	0.66	0.82	-20.40	6.03
LF Ruffer European C Inc	136.90	-	0.12	0.91	-20.38	6.04
LF Ruffer Equity & General C Acc	562.52	-	-0.52	0.77	-1.19	7.41
LF Ruffer Equity & General C Inc	508.21	-	-0.47	0.78	-1.19	7.41
LF Ruffer Gold C Acc	222.42	-	-2.03	0.00	-24.00	7.10
LF Ruffer Gold C Inc	134.62	-	-1.23	0.00	-24.00	7.10
LF Ruffer Japanese C Inc	159.85	-	-2.56	0.26	-16.41	7.50
LF Ruffer Japanese C Acc	344.38	-	-5.51	0.24	-16.41	7.50
LF Ruffer Total Return C Acc	570.54	-	0.12	2.41	1.19	8.86
LF Ruffer Total Return C Inc	355.81	-	0.07	2.46	1.18	8.85

Rubrics Global UCITS Funds Plc (IRL)
www.rubricsam.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Rubrics Emerging Markets Fixed Income UCITS Fund	$132.05	-	0.32	-	-4.10	-1.50
Rubrics Global Credit UCITS Fund	$ 16.52	-	0.02	0.00	-8.65	-1.09
Rubrics Global Fixed Income UCITS Fund	$169.25	-	0.10	0.00	-5.72	-0.70

Scottish Friendly Asset Managers Ltd (UK)
Scottish Friendly Hse, 16 Blythswood Sq, Glasgow G2 4HJ 0141 275 5000
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Managed Growth ♦	341.20	-	0.30	0.00	-3.21	7.29
UK Growth ♦	406.10	-	0.30	0.00	-4.22	8.47

SICO BSC (c) (BHR)
+973 17515031.
www.sicobank.com

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Khaleej Equity Fund	$591.89	-	1.65	0.00	7.83	17.72
SICO Kingdom Equity Fund	$ 34.95	-	-0.31	0.00	2.48	19.90
SICO Gulf Equity Fund	$162.57	-	2.23	0.00	11.69	14.94

Slater Investments Ltd (UK)
www.slaterinvestments.com; Tel: 0207 220 9460
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Slater Growth A Acc	645.27	645.27	-0.33	0.00	-22.41	3.93
Slater Income A Inc	140.67	140.67	-0.03	5.22	-3.27	3.09
Slater Recovery A Acc	334.07	334.07	0.76	0.00	-16.19	8.03
Slater Artorius	288.29	288.29	-6.73	0.32	-25.73	7.67

Stewart Investors (UK)
23 St Andrew Square, Edinburgh, EH2 1BB
enquiries@stewartinvestors.com
Client Services: 0800 587 4141
Dealing Line: 0800 587 3388
Authorised Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
SI Asia Pacific A Acc	1610.90	-	-6.86	0.00	-6.05	8.85
SI Asia Pacific A Inc	£ 2.85	-	-0.02	0.00	-6.24	8.41
SI Asia Pacific Leaders A Acc	882.83	-	-0.44	0.00	-9.96	7.63
SI Asia Pacific Leaders A Inc	£ 3.00	-	0.00	0.00	-9.99	7.57
SI Asia Sustainability A Acc	737.56	-	-0.92	0.00	-5.95	9.06
SI Global Emerging Mkts A Acc	803.55	-	1.22	2.44	2.60	1.84
SI Global Emerging Mkts Leaders A Acc	556.57	-	1.36	1.29	-1.59	0.95
SI Global Emerging Mkts Sus A Acc	366.10	-	0.59	0.00	-10.48	2.50
SI Indian Sub-Cont A Acc	782.62	-	1.05	0.00	1.55	16.34
SI Latin America A Acc	£ 2.18	-	-0.01	2.87	-4.66	-8.93
SI Worldwide Equity A Acc	£ 2.36	-	0.05	-	21.94	8.37
SI Worldwide Equity A Inc	£ 2.39	-	0.05	-	23.40	8.80
SI Worldwide Leaders A Acc	586.32	-	1.11	0.00	-9.99	8.36
SI Worldwide Sus A Acc	£ 2.60	-	0.00	0.00	-15.92	5.47
SI Worldwide Sus A Inc	£ 2.52	-	0.00	0.00	-15.88	5.58

STONEHAGE FLEMING
GLOBAL BEST IDEAS EQUITY FUND

Stonehage Fleming Investment Management Ltd (IRL)
www.stonehagefleming.com/gbi
enquiries@stonehagefleming.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
SF Global Best Ideas Eq B USD ACC	$219.64	-	0.31	-	-24.47	5.77
SF Global Best Ideas Eq D GBP INC	£274.48	-	-1.31	-	-17.07	7.74

SUPERFUND INVEST BETTER

Superfund Asset Management GmbH
www.superfund.com, +43 (1) 247 00
Other International Funds
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Superfund Green Gold	$1198.24	-	9.35	0.00	-20.80	3.90
Superfund Green Silver	$1032.46	-	8.06	0.00	-26.34	5.13
Regulated						
Superfund Green US$	$969.44	-	7.56	0.00	-17.03	0.73

Thesis Unit Trust Management Limited (UK)
Exchange Building, St Johns Street, Chichester, West Sussex, PO19 1UP
Authorised Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
TM New Court Fund A 2011 Inc	£ 18.19	-	-0.02	0.00	-10.70	3.71
TM New Court Fund - A 2014 Acc	£ 18.34	-	-0.03	0.00	-10.75	3.71
TM New Court Equity Growth Fund - Inc	£ 19.71	-	-0.02	0.00	-13.25	4.17

Toscafund Asset Management LLP (UK)
www.toscafund.com
Authorised Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Aptus Global Financials B Acc	£ 4.78	-	0.02	4.36	-0.39	9.69
Aptus Global Financials B Inc	£ 3.09	-	0.01	4.51	-0.39	11.78

Toscafund Asset Management LLP
www.toscafund.com

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Tosca A USD	$406.01	-	8.84	0.00	-4.39	11.27
Tosca Mid Cap GBP	£170.45	-	1.07	0.00	-34.27	-18.16
Tosca Opportunity B USD	$261.12	-	2.32	0.00	-33.86	-17.38
Pegasus Fund Ltd A-1 GBP	£ 40.62	-	0.28	0.00	-33.97	-18.23

Troy Asset Mgt (1200) (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 608 0950
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions
Trojan Investment Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Trojan Ethical O Acc	124.82	-	0.03	0.00	-4.54	5.46
Trojan Ethical Global Inc O Acc	102.01	-	0.20	-	-0.49	-
Trojan Ethical Global Inc O Inc	99.48	-	0.19	-	-0.53	-
Trojan Ethical O Inc	124.58	-	0.04	0.00	-4.54	5.46
Trojan Ethical Income O Acc	135.31	-	0.08	-	-7.79	-1.19
Trojan Ethical Income O Inc	113.39	-	0.07	-	-7.79	-1.19
Trojan Fund O Acc	380.70	-	0.21	0.00	-3.36	5.51
Trojan Fund O Inc	308.15	-	0.17	0.00	-3.36	5.51
Trojan Global Equity O Acc	452.61	-	1.26	0.00	-13.48	6.19
Trojan Global Equity O Inc	373.44	-	1.04	0.00	-13.48	6.19
Trojan Global Income O Acc	156.45	-	0.28	2.80	3.59	6.67
Trojan Global Income O Inc	130.66	-	0.23	2.85	3.58	6.66
Trojan Income O Acc	338.93	-	0.36	2.75	-8.60	-1.95
Trojan Income O Inc	167.79	-	0.18	2.81	-8.60	-1.95

Unicorn Asset Management Ltd (UK)
PO Box 10602, Chelmsford, Essex, CM1 9PD 0845 026 4287
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
UK Growth A Inc	604.10	-	-3.78	0.36	-21.65	-0.64
Mastertrust A Inc ✠ F	584.07	-	-1.46	0.89	-13.70	4.44
UK Growth B Inc	607.50	-	-3.79	1.28	-21.03	0.09
Mastertrust B Inc ✠ F	523.43	-	-1.30	1.76	-13.04	5.21
Outstanding British Cos A Acc ✠ F	277.04	-	-0.42	0.67	-13.39	-3.86
Outstanding British Cos B Acc ✠ F	304.67	-	-0.45	1.50	-12.71	-3.13
UK Smaller Cos A Inc ✠ F	593.61	-	8.12	1.29	-15.15	1.77
UK Smaller Cos B Inc ✠ F	578.82	-	7.93	2.20	-14.49	2.51
UK Income A Acc ✠ F	310.02	-	3.89	5.59	-10.69	-1.49
UK Income A Inc ✠ F	207.41	-	2.61	5.80	-10.67	-1.64
UK Income B Acc ✠ F	346.96	-	4.36	5.62	-10.01	-0.75
UK Income B Inc ✠ F	232.27	-	2.92	5.77	-10.01	-0.89

Zadig Gestion (Memnon Fund) (LUX)
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Memnon European Fund - Class U2 GBP	£239.45	-	1.67	0.00	9.29	8.86

Guide to Data

The fund prices quoted on these pages are supplied by the operator of the relevant fund. Details of funds published on these pages, including prices, are for the purpose of information only and should only be used as a guide. The Financial Times Limited makes no representation as to their accuracy or completeness and they should not be relied upon when making an investment decision.
The sale of interests in the funds listed on these pages may, in certain jurisdictions, be restricted by law and the funds will not necessarily be available to persons in all jurisdictions in which the publication circulates. Persons in any doubt should take appropriate professional advice. Data collated by **Morningstar**. For other queries contact **reader.enquiries@ft.com +44 (0)207 873 4211**.
The fund prices published in this edition along with additional information are also available on the Financial Times website, **www.ft.com/funds**. The funds published on these pages are grouped together by fund management company.
Prices are in pence unless otherwise indicated. The change, if shown, is the change on the previously quoted figure (not all funds update prices daily). Those designated $ with no prefix refer to US dollars. Yield percentage figures (in Tuesday to Saturday papers) allow for buying expenses. Prices of certain older insurance linked plans might be subject to capital gains tax on sales.
Guide to pricing of Authorised Investment Funds: (compiled with the assistance of the IMA. The Investment Association, Camomile Court 23 Camomile Street, London EC3A 7LL. Tel: +44 (0)20 7831 0898.)
OEIC: Open-Ended Investment Company. Similar to a unit trust but using a company rather than a trust structure.
Different share classes are issued to reflect a different currency, charging structure or type of holder.
Selling price: Also called bid price. The price at which units in a unit trust are sold by investors.
Buying price: Also called offer price. The price at which units in a unit trust are bought by investors. Includes manager's initial charge.
Single price: Based on a mid-market valuation of the underlying investments. The buying and selling price for shares of an OEIC and units of a single priced unit trust are the same.
Treatment of manager's periodic capital charge: The letter C denotes that the trust deducts all or part of the manager's/operator's periodic charge from capital, contact the manager/operator for full details of the effect of this course of action.
Exit Charges: The letter E denotes that an exit charge may be made when you sell units, contact the manager/operator for full details.

Time: Some funds give information about the timing of price quotes. The time shown alongside the fund manager's/operator's name is the valuation point for their unit trusts/OEICs, unless another time is indicated by the symbol alongside the individual unit trust/OEIC name.
The symbols are as follows: ✠ 0001 to 1100 hours; ♦ 1101 to 1400 hours; ▲ 1401 to 1700 hours; # 1701 to midnight. Daily dealing prices are set on the basis of the valuation point, a short period of time may elapse before prices become available. Historic pricing: The letter H denotes that the managers/operators will normally deal on the price set at the most recent valuation. The prices shown are the latest available before publication and may not be the current dealing levels because of an intervening portfolio revaluation or a switch to a forward pricing basis. The managers/operators must deal at a forward price on request, and may move to forward pricing at any time. Forward pricing: The letter F denotes that that managers/operators deal at the price to be set at the next valuation.
Investors can be given no definite price in advance of the purchase or sale being carried out. The prices appearing in the newspaper are the most recent provided by the managers/operators. Scheme particulars, prospectus, key features and reports: The most recent particulars and documents may be obtained free of charge from fund managers/operators. * Indicates funds which do not price on Fridays.
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WORK & CAREERS

Greetings from Qatar and here's five seconds of solidarity

Rutherford Hall
Critical Comms

Messages from the archive of Rutherford Hall, critical communications strategist

WhatsApp to Stephen: Aloha from Doha. I know some of the staff are angry at our involvement in the World Cup, but the Qatar deal is a big contract that is going to benefit everyone and could push us into the sporting space. I've sent you a photo of me wearing my rainbow wristband at the opening match, just to reassure everyone I'm trying to show solidarity. Obviously it came off about five seconds after the selfie was taken, but that's the kind of granular detail it's not necessary to share with the team.

From: *Rutherford@monkwellstrategy.com*
To: *Hassan@SCDL.qa.com*
Greetings, it's a joy to be here playing my small part in this fine advert for your country. The Supreme Committee for Delivery & Legacy has done a wonderful job.

Thank you, yes, the Centro hotel is absolutely adequate. I do understand that there were a few glitches with the official Fifa hotel, and of course your point that the Mandarin Oriental, Four Seasons, Marriott Marquis, Sheraton, Kempinski and Dusit were all also full.

I know some of the advance publicity has been upsetting but as I warned you, knocking stories are normal for all tournaments before the sport starts and journalists don't have anything to write about. As I predicted, once the football is in full swing everyone moves on.

We have prepared some powerful defence strategies which we are rolling out now to decision makers and thought leaders in Europe and making good progress. It's important that we keep this going after the tournament so the debate is not dominated by critics. We still want to clinch the Olympics!

My first approach is an aggressive assault on western hypocrisy, racism and colonial mindset, which imposes western attitudes on a proud Middle Eastern nation. We really like this approach as it confuses the hell out of the liberal media. Our team has been phoning them up and telling them to check their privilege, which really scrambles their brains. We can also chuck in a few points about western nations looking to their own histories and failings on racism and mistreatment of low-paid workers. And how homosexuality was still a crime in England when it hosted the World Cup.

For the rightwing media, we are playing up the line about virtue-signalling footballers. This works because those who use the phrase normally object to the virtue rather than the signal. We are using this approach with key thought leaders like Nigel Farage, Piers Morgan and Silvio Berlusconi. The point is that this event is about football not political protests, except for Iran's team not singing the national anthem which is a "good protest" and so about something bigger than soccer. Underpinning that, we want to quietly contrast your modern forward-looking nation with other, rather less progressive, regional hubs.

Finally, we are quietly pointing out all the western nations queueing up to buy your gas who don't seem to have a problem when the issue is heating their homes or securing their governments.

This is our five-point approach and we can already see it making inroads — a Four Seasons strategy on a Centro budget if you will. Best, Rutherford

Member DCMS Panel on Business and the Metaverse

Find me on Strava, KoM Sydenham Hill, PR London to Brighton: 3h 59m

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WhatsApp to Sally: Hi Sal, I know it's tricky for sponsors but no one went to Qatar without knowing this. It's a brief squall from the western colonialist media. You can remove the branding if you want, though facing both ways is often easier than it sounds. Our overall advice is that any damage is already done and any reputational hit will fade fast especially as you are sponsoring England not the Cup. But use internal comms to calm staff. The key point is you are backing our boys. As we used to say in Downing Street, if you can't snuff it out, tough it out.

> **You can remove the branding if you want, though facing both ways is often easier than it sounds**

WhatsApp to Hassan: I forgot to mention, we've been working quietly to stiffen the backbones of a few sponsors. I was going to tell you at the reception but was overseeing comms and didn't have time to hike over from the Centro.

WhatsApp to Stephen: Just to let the team know, we've moved hotels. I'm now in room 634 at the Kempinski. Check out the view!!

WhatsApp to Stephen: WTF. Who tweeted out that photo of me in the wristband? I'm going to have to grovel like crazy if we are going to keep this account after the finals.

WhatsApp to Hassan: Let me explain…

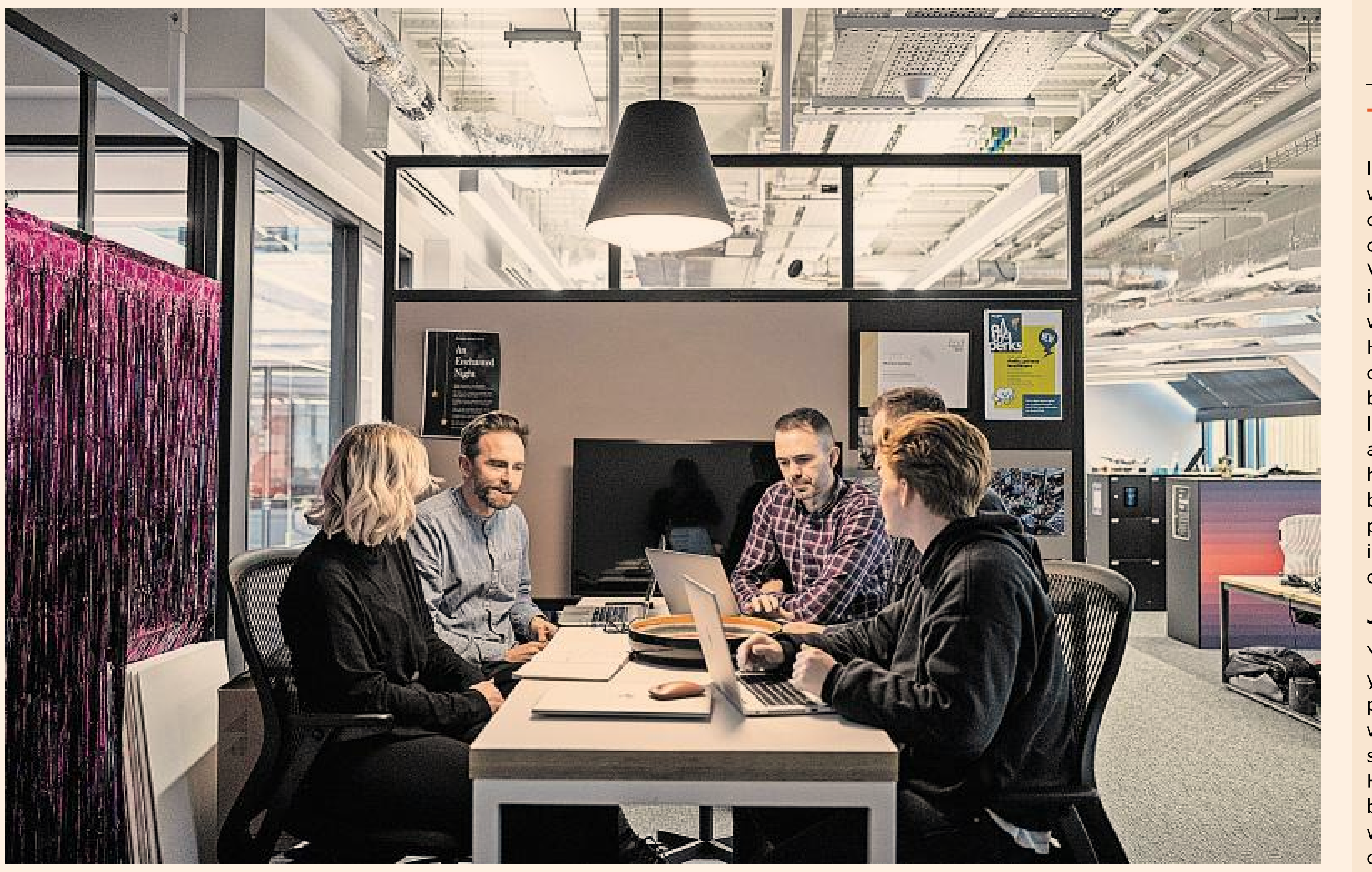
WhatsApp to Stephen: Just to let the team know we've moved back to the Centro. Check out this breakfast buffet.

Messages recovered by Robert Shrimsley

Workplaces

Privacy at the office and the rise of 'quiet space'

How much noise is too much? Managing sound levels has become an art – and a science. By *Emma Jacobs*



Advertising company McCann has opened new offices in the City of London; Lucy d'Eyncourt-Harvey, its building operations director, pictured below, says the space is a centre for collaboration but includes quieter areas
Charlie Bibby/FT

Employees at Levenfeld Pearlstein, a Chicago law firm, are getting ready for an office move in January — from the middle of the city's business district to the riverside — by getting rid of the work detritus on their desks and taking home their personal possessions. Not only will the new workspace be smaller (from 53,000 square feet to about 37,500) but there will also be fewer assigned offices.

It's a move that Kevin Corrigan, the chief operations officer, anticipates might trigger upset. "Some people are going to feel 'I've worked hard for my office, I've come up the ranks. Now you are going to reduce the size of the office. I might not even have one.' It'll be a change for people."

This is not just a matter of ego. The firm wants to encourage staff back into the office part-time, as like many employers it is embracing hybrid work, a mix of working from home and the office. Typically, time at home is earmarked for focused work, while the workplace is the destination for in-person meetings and socialising. Advertising company McCann, for example, has opened new offices in the City of London, and sees them as a centre for "creativity, collaboration and connection" with hack rooms, pitch rooms and creative zones, according to Lucy d'Eyncourt-Harvey, its building operations director. However, she says, there are also quieter areas in the new workspace.

This is because working days are not always easy to divide into focused and collaborative time, and so the office will also need spaces that are private and quiet. In any case, for some, the office is a refuge from distractions at home — employees with young children or living with an elderly family member, or those in flat shares and cramped conditions. Kristin Cerutti of Nelson Worldwide says: "You can't generalise. A lot of people need the office for focus work."

Corrigan says Levenfeld Pearlstein will still provide offices, though the majority will be unassigned so that staff — secretaries as well as lawyers — can get their heads down and concentrate in between meetings, training and mentoring sessions.

After two years of lockdowns and remote working, many white-collar workers are finding it harder to concentrate in open-plan offices. Jeremy Myerson, emeritus professor at the Royal College of Art and co-author of *Unworking: The reinvention of the modern office*, says: "When you've spent two years alone, you become very sensitive to noise. What we're hearing from HR departments is that people are hypersensitive to their environments."

Moreover, the proliferation of Zoom calls means that people are more likely to be holding a distracting meeting at their desk rather than tucked away in a room out of earshot. Levenfeld Pearlstein's Corrigan says a great deal of attention has been paid to acoustics in the new office. However, some people are going to have to be encouraged to close their office doors and use headsets rather than having conference calls on loudspeaker. "We can build the infrastructure but need to encourage people to use it."

Acoustics is one of the biggest challenges, says Mark Kowal, British Council for Offices' president. "Pink noise" is an increasingly popular option to mask the background noise — in fact, he uses it in his own workplace, an architecture firm. He describes it as "an artificial jumble of frequencies, it masks what you can hear [and] adjusts to the number of people in the space".

This is not just a matter of delicate sensibilities following the pandemic. Even before lockdowns, workers were facing squeezed space in open-plan offices. According to the British Council for Offices, in 2001 there was about one desk per 15 sq m in UK offices and in 2018 it was 9.6 sq m.

In response to Zoom demands and pandemic sensitivity, some designers and employers are creating quiet areas, away from the hubbub of the open-plan floors. At co-working group WeWork, its global head of design, Ebbie Wisecarver, says they will provide two types of quiet spaces: pop-in areas for the transient members who come for the day or hour. While for the corporate members there will be private amenities: dedicated spaces with interior offices, meeting rooms, lounges and kitchens. "Co-working may not traditionally be equated with privacy, but as more organisations rethink their real estate footprints quickly — especially in industries such as law, healthcare, financial or data services that typically demand more formal, private settings — we're seeing the growing need."

This is not quite the revival of the cubicle, created in the 1960s by Robert Propst at design company Herman Miller. Conceived as a flexible, individual workspace affording employees privacy, a departure from rows of heavy desks, it soon became a symbol of alienated white-collar drones, Nikil Saval writes in his book, *Cubed: The Secret History of the Workplace*. The writer Douglas Coupland described the cubicles in *Generation X* (1991) as a "Veal-Fattening Pen: small, cramped office workstations built of fabric-covered disassemblable wall partitions and inhabited by junior staff members. Named after the small preslaughter cubicles used by the cattle industry." Propst himself became disillusioned with the way the cubicle was interpreted: "Not all organisations are intelligent and progressive," he is reported to have said in 2000. "Lots are run by crass people. They make little, bitty cubicles and stuff people in them. Barren, rathole places."

> Even before lockdowns, workers were facing squeezed space in open-plan offices

This means a proliferation of phone rooms, huddle spaces, or private offices that are either shared or unassigned. Microsoft, the tech group, recently created a new prototype for the Flowspace Pod, a cocoon-like fabric-lined pod designed for focused work. At Cisco, which describes offices as "talent collaboration centres", designers anticipate employees using different areas that suit their work throughout the day, including huddles (rooms for three people) or quiet rooms (for one to two people). Bob Cicero, smart building lead at Cisco, the tech group, says: "When we rebuilt the space [during the pandemic] we were very sensitive about acoustics." That meant creating walls that go from the floor to the ceiling and sealed door frames that prevent sound leakage. "We measure ambient noise everywhere." That even includes filtering out "the crying baby, barking dog, leaf blower at home: we're filtering out that noise for the remote participant so we can have a productive meeting."

Janet Pogue McLaurin, global director of workplace research practices, sees more demand for workplace libraries "creating quieter tech-free zones like the quiet car on the train. In this zone, it might be no talking or no tech. It allows people to switch gears from a group meeting to deep focus."

However, like so much about the workplace such rooms need endorsement from the top. Anne-Laure Fayard, chaired professor in social innovation at Nova School of Business and Economics, speaks of one company that had made great play of their library room but could not understand why employees were not using it. "We started talking to people and asking: they said: 'We're an innovations company, we have to be in the room, in the energy. It doesn't look good to be there too often.'" It turned out senior management never used the room either.

Fayard believes there is a lack of imagination when it comes to design. At a recent meeting she was depressed to hear of plans to install phone booths for privacy. "Imagine the office of the future is sofas and phone booths. Wow, that is not what we were envisaging creatively."

Dear Jonathan

YOUR QUESTION FOR OUR EXPERT — AND READERS' ADVICE

How do I become an early stage VC investor?

This week's problem

I am a corporate lawyer working with emerging companies and venture capital clients in Silicon Valley. I like my job, the pay is great and I enjoy working with founders and investors. However, I don't want my career to be forever tied to billable hours. I want to listen to a founder's visions and invest in them. I don't have a financial background, but is there a way I could pivot into early stage VC investing? Or am I delusional? **Male, 20s**

Jonathan's answer

You have a well-paid role you like, a valuable skill, and people with whom you enjoy working: ingredients many seek for a happy career. However, it is not unusual to be looking ahead and weighing a change in direction to add new skills and responsibilities.

Tej Panesar, partner at Prism Ventures, has seen this before when a senior lawyer enjoys the intellectual interest and challenge of venture capital and eventually moves over to become an investor. But he notes, that "there is a very different mindset between being an external lawyer, providing a fee-for-service with low risk, and being able to make risk-informed views of how to invest".

For example, established VC managers have the battle scars from structuring and dealing with risk, he adds. "Early-stage VCs have developed ways of managing the problems" and these are likely to be new to you as a corporate lawyer.

Alexander Lushnikov, co-founder of trendi.money, offers two options to consider: make a career move to work at a VC or perhaps first gain more active exposure to the world of venture funding. For the first choice, a role to consider is one where you still use your legal training and experience but in a VC, for example as a general counsel.

As a GC, Panesar points out that you would have exposure to the transactions and deal flow, and also be running the corporate side of the organisation. While he hasn't seen GCs move to be venture partners, he has found that lawyers who came in-house to be GC did not then seem to feel the need to move. "They got the exposure to deals and retained their niche expertise," he says.

Platforms such as trendi.money would give you the opportunities for more active engagement, as an investor. Lushnikov highlights that there has been a continuing democratisation of venture capital, saying "sophisticated investors, or high net worth individuals, now have the chance to hear the pitches from companies seeking funds, often at Series B or C, and join consortiums by investing £25K-£50K rather than more typical amounts of 10x that."

It will be fundamental to be honest with yourself about your appetite for risk. While VC funds have made excellent returns in recent years, the money is not easily accessible and there is always the chance of losing considerably. Your path may lie through early stage investing, perhaps via a start-up investment platform, while still having the choice later to move to be a GC at a venture capital firm.

Readers' advice

If you are a junior in venture capital, your job is to source deals — networking is the main skill. Having a nose for the right types of business helps, but your seniors will tell you what to look for. There will be some financial analysis but it will be fairly basic. **LibrarianCap**

Sign up to join an angel syndicate like Dot Matrix Group where you can get exposure to angel investment opportunities as a hobby. After a couple of years you will be able to show you are well versed and actively participating in the space. **AintNobody**

The next problem

I work in product development for a global asset manager but want to leave my firm and travel. Should I take a leap of faith, leave my job, travel for a year, maybe get a contract role in another country, and then come back to London? Or is this too risky, and will result in years of making up for it? **Female, 20s**

Jonathan Black is director of the Careers Service at the University of Oxford. Every fortnight he answers your questions on personal and career development and working life. Do you have a question for him? Email: dear.jonathan@ft.com

WORK & CAREERS

How to Lead. Sir Ian Blatchford, chief executive, Science Museum Group

'If the arts world is not careful, it will be eaten alive by its own piety'

The former banker on navigating Whitehall, culture wars and the scrutiny of its funding sources. By *Anjli Raval*

Sir Ian Blatchford, next to the Science Museum's 'Self-Conscious Gene' by Marc Quinn, has found courting philanthropists and companies increasingly important to his role— Charlie Bibby/FT

The departure of Boris Johnson as prime minister in September was inconvenient for Sir Ian Blatchford. As chief executive of the Science Museum Group for more than a decade, about 40 per cent of his funding comes from the state, and building relationships with those at the centre of government is a priority.

"I had built up connections with this extraordinary array of people at No 10 [Downing Street]," he says. Contact details of the entire Johnson team went from "gold dust to zero" overnight. After completing what he calls a long summer of goodbyes, he had to start again with Johnson's successor Liz Truss. But then the prime minister changed again.

"Whitehall is a great machine but sometimes you need a certain insider's mobile [number] to unlock ideas and decisions that have become stuck, as lots of intelligent people send things in circular motion," says Blatchford.

"I am now getting to know the Sunak-Hunt circles," the 57-year-old says, adding that each change in prime minister or chancellor leads to people changes he needs to be on top of. "It is essential to know all the invisible power brokers . . . If you want to get things done in Whitehall you need to be both logical and also quite pushy. And sometimes you need to just lose it a bit and get an ally."

Ties with the government have been weakening. Being what he calls a "rainmaker" has become a bigger part of the job, courting philanthropists and corporations who finance projects that show how science is applied to industry and everyday life. "The direction of travel has been firmly moving towards greater self-reliance," he says. But blockbuster exhibitions can cost as much as £5mn. "My organisation is bursting with creative ideas . . . but the difficulty is matching that with resources."

The group oversees the landmark museum in South Kensington, the National Railway Museum in York and three sites in the north of England. Total number of visits to London's Science Museum fell by 93 per cent when it was forced to shut its doors during the pandemic. According to the group's annual report, their key measure of income fell by almost 80 per cent to £7.1mn. Covid-19 restrictions made fundraising "particularly challenging and created a hugely uncertain financial environment", the report said.

> 'I'm totally relaxed about being around rich people, which is not always true of arts people'

While Blatchford did not miss the excessive international travel of his pre-Covid life, the pandemic only added to mounting pressure. Arts and cultural institutions have had to scrutinise their funding sources more heavily, particularly from donors who earn their money selling arms, fossil fuels or opioids. "Squaring the financial need and the ethical framework gets harder and harder and harder," Blatchford says.

The Science Museum has come under fire for accepting money from oil and gas producer BP. Many activists believe fossil fuel companies are greenwashing their corporate activities through such initiatives. Yet often, big banks and legal and professional services firms that facilitate the same fossil fuel projects are not targeted in the same way, exposing the complexities of the debate.

It frustrates Blatchford, who believes the debate in the sector is often out of touch with reality. "Business and finance is so complex and intertwined. There's a danger that if the arts world is not careful, it will be eaten alive by its own piety . . . at times it's become almost alarming," he says.

That is not to say the group prioritises fundraising over all else. Saudi Arabia's human rights abuses were a factor that led the body to decline funds from a consortium including the country's state energy giant Saudi Aramco, one of the world's biggest oil producers.

Blatchford believes BP is different. Not only does it fund research into green technologies, he says, but most importantly it is a publicly listed company whose strategy is scrutinised by investors. A push to delegitimise such companies will only drive fossil fuel activities further into the private sphere, which operates in the shadows, says Blatchford. "I think it's important to kind of just press the pause button on that tape and say, where is this going to take us?"

Blatchford says his commercial past was crucial to helping him navigate the role. "I am totally relaxed about being around rich people, which is not always true of arts people. I don't have any problem with wealth at all . . . I really enjoy meeting people who have made great successes of their lives."

Blatchford undertook what he calls a portfolio career, which was unusual for a man of his generation. After studying law at Oxford's Mansfield College, he worked in the City of London, first at the Bank of England in international regulation, and then in mergers and acquisitions at Barclays de Zoete Wedd.

"In the 1980s, being a banker was a hero job . . . people can't believe that now. But at the time of the big bang, all of us went into that world," he says.

But he had a creative side and there were things about banking that he found "irritating". "The fact it was so remorselessly macho in a way that is actually just kind of tedious," he adds. "Long hours, just for the sake of it."

Blatchford transferred his skills to the Arts Council and later to the Royal Academy of Arts and the Victoria and Albert Museum, where he took on roles as the director of finance. He was appointed in 2010 to the head of the Science Museum Group by David Cameron, then prime minister.

Exhibitions have to be planned years in advance yet still remain relevant. The museum is known for exhibitions including humankind's ever-changing relationship with the sun, superbugs and their resistance to antibiotics, robots and disinformation.

Blatchford, like his peers at other big institutions, has become embroiled in the culture wars, attacked by both the right and the left — on issues from environmental politics and the trans debate to the colonial legacy of such institutions, and the largely white composition of their workforces.

"It's so easy to be sent into a panic by the noise, by Twitter feeds, by social media trends," he adds. He avoids all social media, believing it to be complicit in "destroying your sanity".

As with all business leaders today, he is under huge pressure to always do the right thing. Blatchford, who made his 50th trip to Russia at the start of 2020, handed back his Pushkin medal after the country invaded Ukraine. Awarded to citizens and foreigners for achievements in the arts and culture, he said at the time: "I cannot keep a medal that was handed out in the name of the Russian state by Vladimir Putin, who is responsible for this war."

But he does not always side with the popular opinion of the time. He feels strongly against the movement to tear down statues in the UK. After the murder of George Floyd by police in the US, demonstrators in Bristol protesting against racial inequality tore down a statue of a slave trader and threw it into the harbour. "'Cancelling' history is anathema to the way we work", he wrote in The Telegraph newspaper last year. "Our approach should be about additions not subtractions."

Blatchford is not trying to please everyone, believing people will respect — even "grudgingly" — a well-thought-through decision. But he also points out that people make a series of establishment assumptions about him. "I'm a white man with a knighthood and quite formal in the way I do things," he says. But he adds he is also a gay man with a Jewish husband, which he believes gives him a sensitivity to the diversity agenda. "I really get otherness. Of course I do."

He faced criticism for not publicly supporting the Black Lives Matter campaign. "Showboating", however, "turns my stomach", he says, adding that he's a believer in "deeds, not words".

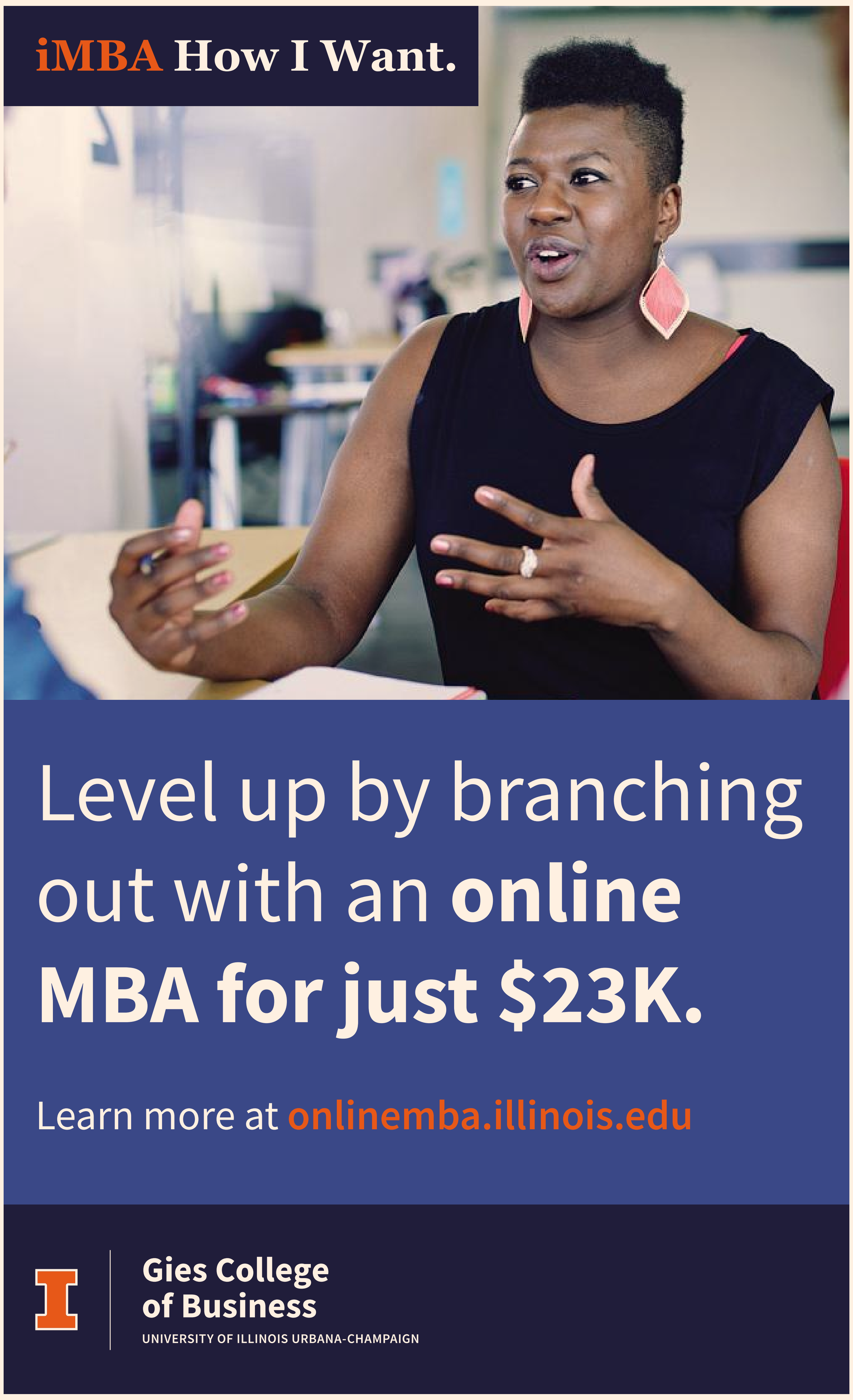
> 'It's so easy to be sent into a panic by the noise, by Twitter feeds, by social media trends'

More important, he says, is not only overhauling recruitment processes but also creating new directorships open only to people with ethnically diverse backgrounds, which has drawn separate criticism. Inevitably, when curators have made appointments of non-traditional candidates, some of those hires do not work out, which causes "panic".

"We've been hiring second-rate men for 2,000 years," says Blatchford. It's not about making the "perfect hire" it's about finding opportunities for a diverse pool of candidates — from race to gender and social class, he adds.

Blatchford often turns to business leaders for advice. Marjorie Scardino, former boss of Pearson (former owner of the Financial Times), gave him a tip that has been key to his leadership. "She said, 'The moment you become chief executive, people will cease to tell you the truth and that is the greatest risk.'" Dissenting voices need to be heard.

One of the trickier aspects of his role is how to navigate boardroom psychology. "Boards are vital to our lives, but they can drive every chief executive absolutely round the bend," says Blatchford. Giving board directors more options and getting supportive voices heard in meetings has been crucial. "It's the one thing about being a boss that no one ever trains you for . . . managing upwards is an astonishingly difficult skill."



ARTS

Wet Leg make a splash

Rhian Teasdale of Wet Leg fits bubblegum hooks into classic indie rock — Lorne Thomson/Redferns

POP

Wet Leg
Kentish Town Forum, London
★★★★☆

Ludovic Hunter-Tilney

"Well, this is nice," said Wet Leg's Rhian Teasdale, observing a packed venue heaving with fans who knew all the words. The beaming singer proceeded to use the same approbation at least five more times in her between-song badinage. Life is clearly nice at the moment for Wet Leg. What's more, it's getting nicer.

Teasdale and her guitarist bandmate Hester Chambers are finishing their breakout year with a flourish. The UK duo have received five nominations for the 2023 Grammy Awards, a gilt-embossed stamp of approval from the hard-faced border authorities of US pop music.

That's just one fewer than Harry Styles, whom they will join in February as support on his world stadium tour. He covered their single "Wet Dream" for a BBC Radio 1 live session in May, a tribute that was beyond nice for Teasdale. "It felt like we were in a parallel universe," she marvelled in an interview afterwards.

Their own universe is classic indie rock with buzz-saw guitars, bubblegum hooks and witty lyrics about the minefield of middle-class life in your twenties as the next decade looms into view. Hailing from one of the global epicentres of niceness, the Isle of Wight, Wet Leg give slacker ennui the contemporary quality of relatability, which is just a fancy modern term for "nice". But their gig at the Kentish Town Forum, the first of two, demanded a livelier form of praise.

> A relish for playfulness and silliness runs through the band's songs, a way of warding off dull adult responsibilities

Teasdale and Chambers were joined by touring bandmates Ellis Durand on bass, Henry Holmes on drums and Joshua Omead Mobaraki on keyboards and guitar. The setlist mostly drew on from their self-titled debut album, which topped the UK charts on release earlier this year. "Wet Dream" was played near the start, a comical tale of unhinged erotic reverie with irresistibly jangling riffs and brisk handclaps, done by Teasdale with hands level to her head as though she were a stern flamenco musician.

A relish for playfulness and silliness runs through Wet Leg's songs, a way of warding off dull adult responsibilities. "Ur Mum" is about a regretted relationship with a dismal man in a dead-end town that ends with Teasdale giving an absurdly elongated scream. At the Forum, she orchestrated this yell into a mass hullabaloo, a drawn-out moment of pantomime catharsis. Other songs were buoyant with breezy la-la-la refrains and playground chants. Chambers played guitar phrases that people sang along to as though they were lyrics. Meanwhile, Teasdale sang the actual lyrics with an entertainer's sense of timing and emphasis.

"Obvious" struck a serious tone and the only duff note, a slowie that was on the verge of dozing off before being rescued by a surge of guitars and drums. The rest of the set dashed by at an effervescent clip.

They ended with the most addictively carefree of their songs, the breakthrough hit "Chaise Longue". Performed by Teasdale and Chambers in the student fancy dress of academic mortarboards and gowns, it involved smirking euphemisms, call-and-response routines, earworm riffing, a mosh pit, a thick blizzard of confetti and a stage invasion from people in more fancy dress outfits. This wasn't nice — it was a blast.

wetlegband.com

Lucrative Business OPPORTUNITIES

Invest in the Heart of LAHORE

WALK N SHOP (LDA SHOPPING ARENA) is built on a property owned by Lahore Development Authority (LDA) in Johar Town, Lahore. The mega project consists of **84** shops (one bay, two bay, and three bay shops) and vast open area with multiple amusement facilities including theme park, train track, zip line, mini golf course, food kiosks, kids play area, amphitheater etc.

LDA intends to lease out SHOPPING ARENA for a period to be determined at a later stage. The goal of this pre-qualification is to shortlist interested companies having relevant experience and financial strength to operate and maintain the Arena under guidelines from the Authority. Invitation is open to registered firms under Registrar of Firms or SECP (whichever the case may be) along with registration with concerned Tax Authorities. International Firms registered with relevant bodies in their home countries are also encouraged to apply in **JV** with a Local Firm. However, the **JV** must be registered as separate legal entity in the Authorities mentioned above.

Prequalification Documents **(PQD)** can be obtained from the office of the undersigned at 467-D/II, Khayaban-E-Firdousi, LDA Office Building (4th Floor), M.A. Johar Town, Lahore during working days/working hours upon payment of **PKR 10,000/-** (non-refundable) in shape of pay order in favor of "Lahore Development Authority". A copy of PQD can also be downloaded from **www.ppra.org.pk** & **www.lda.gop.pk**, but such document shall be accepted only when the pay order accompanying the application has been cleared into LDA's Account.

Sealed Prequalification Applications shall be delivered to the office of undersigned not later than **5th of December 2022** @ 1200 Hours PST.

SPL - 1743

RESHAPING LAHORE

Chief Engineer-II, LDA | LAHORE DEVELOPMENT AUTHORITY, GOVERNMENT OF THE PUNJAB

467-D/II, Khayaban-e-Firdousi, Main Boulevard, Muhammad Ali Johar Town, Lahore | @LHRDevAuthority | Lahore Development Authority

DiDonato is a Woolf in sheep's clothing

OPERA

The Hours
Metropolitan Opera, New York
★★★☆☆

George Loomis

TV station PBS called it "the opera event of the year": the world premiere production of *The Hours*, Michael Cunningham's Pulitzer Prize-winning 1998 novel, in an adaptation by composer Kevin Puts and librettist Greg Pierce. The book was filmed by Stephen Daldry four years later and, emulating the film, the Met has enlisted three divas for a drama fabricated from three stories, each with its own time and place, about women frustrated with the course of their lives.

They unfold arrestingly in Pierce's libretto. Joyce DiDonato, who emerges as the vocal standout, is gripping as Virginia Woolf, constrained for mental health reasons in 1923 to write her novel *Mrs Dalloway* in tranquil suburban Richmond while deeply missing London. Broadway star Kelli O'Hara gives a striking performance as Laura Brown, who languishes as a wife and mother in 1949 Los Angeles, finding escape in *Mrs Dalloway*.

Renée Fleming is Clarissa Vaughan, an editor who takes care of Richard (Kyle Ketelsen in vivid form), now dying of Aids, with whom she had a summer fling and who wishes she had spent her life with, instead of her female partner. Fleming sounded vocally fragile at first yet gave an affecting, introspective account. This was her first Met performance since 2017, after which she retired from conventional operatic roles.

Fleming, who suggested the possibility of an operatic version of *The Hours* to the Met, is one of many who have recognised Puts's ability to write for voices. Indeed, with Yannick Nézet-Séguin conducting, the score's best moments come when female voices soar in melodies that can be ravishing. Sometimes transitional passages between one storyline and the next find voices from each overlapping to fine effect, most strikingly in a duet for Laura and Virginia in act two.

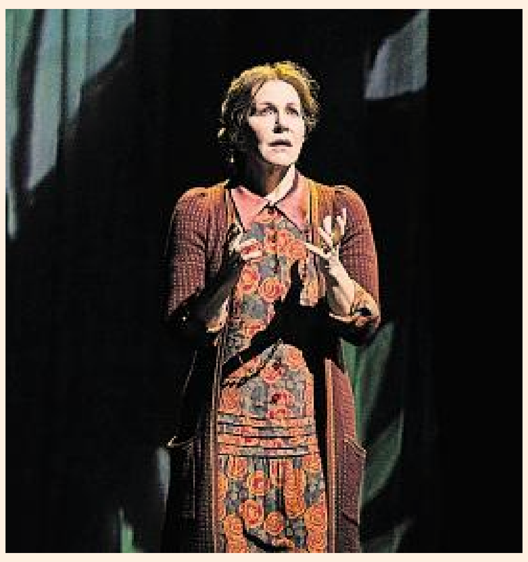
Sometimes, the characters are differentiated musically. Pop music from the 1940s is heard when Laura is introduced, and Virginia's lines have a jerky, telegraph-like accompaniment. Overall, though, the music is more similar than different. *The Hours* holds one's interest, but a certain predictability develops which lessons the impact of the opera's final trio for the three stars.

A more effective use of the chorus could have provided welcome variety. Instead, choruses sometimes impede dramatic flow, particularly in encapsulating characters' thoughts, as when they mumble words from *Mrs Dalloway* as Virginia struggles to compose them. An angry choral outburst after Richard's suicide also seemed out of place.

> 'The score's best moments come when female voices soar in ravishing melodies'

The production by Phelim McDermott efficiently deals with the opera's multiple venues, thanks to the designer Tom Pye's sets and costumes, which aptly reflect the timeframes. But the staging is overdone in deploying choristers and, especially, dancers. Surrealistic choreography by Annie-B Parson — which includes figures showing up randomly in Virginia's study and Laura's kitchen or sprawled on sofas in Richard's apartment — conflicts with the opera's realistic treatment of its subject and even other aspects of the production.

To December 15; streamed in cinemas on December 10, metopera.org



Joyce DiDonato as Virginia Woolf in 'The Hours' — Evan Zimmerman/Met Opera

The Soviet spy satellite that fell to earth

PODCASTS

Fiona Sturges

In the winter of 1978, a group of men appeared in the town of Snowdrift (population: 300) in Canada's Northwest Territories dressed in gloves, goggles and white suits. They carried instruments that appeared to be testing for radiation and instructed the local school to send its children home for the day.

Several hundred miles away, two Americans, John Mordhorst and Mike Mobley, were running their dog sled teams across a vast tundra called The Barrens, when they found a pit in the snow. Looking more closely, they saw a tangled mess of metal that was frozen into the ice. Mordhorst recalls returning to their cabin and telling a friend what they saw.

"He [got] really animated and he said, 'You found it! You found it!' And Mike and I just looked at each other. Like, 'What did we find?' And he said, 'You found a Russian satellite!'"

The new podcast *Operation Morning Light* reveals how a radioactive spy satellite from the Soviet Union, Cosmos 954, disintegrated over the Northwest Territories. The series is presented by Dëneze Nakehk'o, a journalist who is Dehcho Dene, one of the indigenous Dene groups of north-west Canada. Nakehk'o has a personal connection to the story: he grew up on the shores of the Mackenzie River, which stretches a thousand miles through the Territories. "A lot of the fish are poisoned," he says. "Animals have deformities, and there's a cancer epidemic. Many people will tell you that these changes are connected to what happened that winter in 1978. But nobody can say for sure."

In a story that is part *Fargo*, part *Stranger Things*, we hear about a secret division of scientists at San Francisco's Lawrence Livermore National Laboratory who were tracking the satellite in the weeks leading up to the crash, and about Norad — the North American Aerospace Defense Command — which is housed in an underground bunker in Colorado and observes the thousands of bits of junk floating in space. We also hear from a witness from Fort Resolution, a settlement near the Great Slave Lake (called Cu Necha by those who live there), who saw "dozens and dozens" of objects moving across the sky with "long fiery tails".

This is more than a tale of Soviet intrigue, however. Aided by an eerie and evocative sound palette — bask in its whipping wind and the distant tinkling of dog sleds — *Operation Morning Light* tells of a land that is beautiful but unyielding, accessible only by plane or boat, and where European explorers, beguiled by the emptiness, died of starvation.

It is a story that belongs mainly to the Dene people who were most affected by the Cosmos crash. At the start of the series Nakehk'o recalls a Dené prophecy about the end of the world, made by its spiritual leader, Ereya. We will know the end is near, he said, when the stars fall out of the sky.

podcasts.apple.com

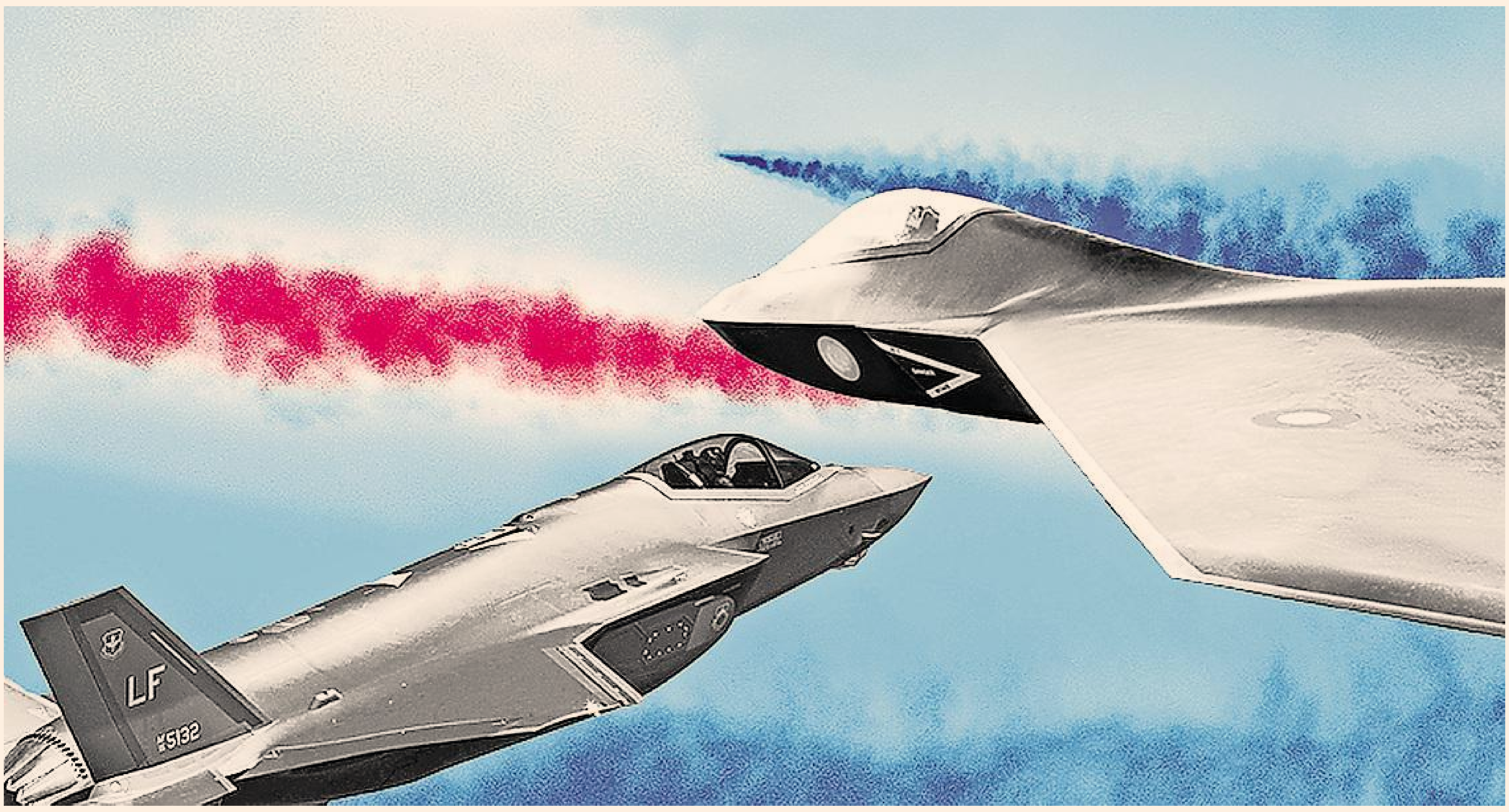
A Canadian C-130 and crew as part of the Operation Morning Light team in 1978

FT BIG READ. AEROSPACE & DEFENCE

A partnership with the UK set to be agreed this year marks a shift in the Asian country's role in the global defence industry after years in the shadows. The stakes are also high for Britain to make the project work.

By Kana Inagaki, Leo Lewis and Sylvia Pfeifer

Japan's fighter jet dreams



The jet would be at the centre of the defence collaboration between the UK, Japan and Italy, built on a design that would put it among the most sophisticated aircraft ever made; Japan has long hoped of building an aircraft to match its famous second world war-era Zero fighter, below right

FT montage/Liz Lutz/BAE/Unsplash; Matteo Omied/Alamy

It sounds like something out of a Hollywood movie: a fighter jet set to take to the skies in 2035 equipped with hypersonic weapons capable of travelling at Mach 5, swarming drones controlled by artificial intelligence, and "directed energy" weapons that could use electromagnetic pulses to bring down enemy systems.

The plans are yet to be finalised, but the ambition is unprecedented. The jet would be at the centre of the first ever three-way defence collaboration between the UK, Japan and Italy, built on a design that would put it among the most sophisticated aircraft ever made.

Until now, Japan has worked exclusively with US partners on big military programmes. The tri-national project would merge Japan's F-X programme with the UK and Italy's Tempest project, marking a shift in the Asian country's role in the global defence industry after years in the shadows.

The project would reinforce Tokyo's determination to forge deeper security ties with a range of allies to prepare for the possibility of a war with China over Taiwan. "[It] will expand Japan's network to Europe and contribute to strengthening its security environment, while potentially making exports possible," says Katsutoshi Kawano, the former chief of Japan's Self-Defense Forces' Joint Staff.

By working with the UK, he adds, Japan would probably have more flexibility to upgrade its fighter jets to address growing security threats. "It's unprecedented but I can't really imagine a case for failure."

The deal is not yet sealed; over the past few months, attempts to find the perfect moment for a three-way signing have been derailed by the political turmoil in the UK, a change of government in Italy and the assassination of Japan's longest-serving prime minister.

With fewer than 30 working days left in 2022, the governments of Japan, the UK and Italy are straining to put a date in the diary to formally unveil the partnership or risk budgetary constraints delaying the aircraft's development past its anticipated launch date of 2035.

That would set back Japan's attempts to secure its future in a dangerous and decoupling world confronted by an increasingly assertive China as well as nuclear-armed North Korea and Russia.

The stakes are also high for the UK. First unveiled at the Farnborough Airshow in 2018, Tempest underlines the country's intention to retain its cutting-edge expertise, despite Brexit, after being left out of a rival Franco-German-Spanish future fighter project. The UK has always said it would need international partners, both to help reduce cost and to secure export orders, and signed a statement of intent with Italy in 2019.

If a deal is reached next month, it would be a collaboration between the main contractors Mitsubishi Heavy Industries (MHI) of Japan, the UK's BAE Systems, and Italy's Leonardo.

Sovereignty is also an issue for Japan, as it tries to build defence capabilities for a changing geopolitical landscape. Behind the effort that has brought Asia's largest developed country to the negotiating table with the UK is frustration in Tokyo over the US's habit of keeping its most cutting-edge technology to itself, say analysts. Defence executives say the move was driven in part by a focus on having onshore capabilities.

"Japan will continue to have a very close relationship with the US," says Norman Bone, chair and chief executive of Leonardo UK, one of the existing industrial partners on Tempest. "But there are some points where countries have to decide they have to have onshore freedom of action. When they want that onshore freedom of action there are times when the US model is not applicable."

The Japan-US divergence

For almost all of its postwar history, Japan has been largely dependent on US military technology and troops to defend itself.

But people involved in the talks say Tokyo's decision to partner with the UK for its stealth fighter stems from growing concerns that its local defence industry would be unable to maintain its sovereign capability to develop modern military equipment without playing a more leading role in their development.

Japan has long dreamt of building a domestic aircraft to match its famous second world war-era Zero fighter, and officials in Tokyo have pushed for the use of a homegrown design for the replacement for its F-2 fighter jets. But during the Trump administration, the country came under pressure to choose a US defence company to jointly develop its F-X fighter even though Tokyo was considering a British alternative to cut its reliance on American weapons.

In late 2020, Japan's defence ministry chose Lockheed Martin, the US maker of the F-22 and F-35 stealth fighters, as a partner for MHI, which is heading the F-X programme. But it also continued its discussions with BAE Systems, and engine maker Rolls-Royce, according to the ministry. In July, the UK formally announced it would conduct joint concept analysis on future combat air capabilities with Japan and Italy.

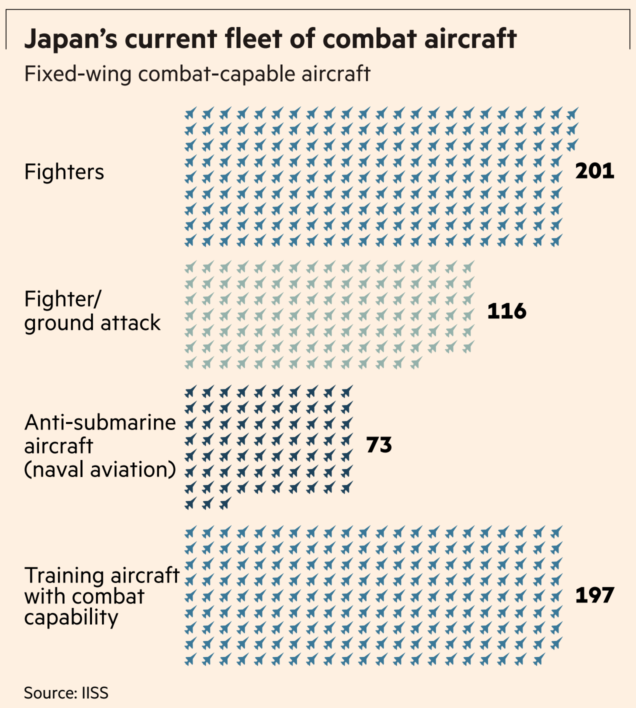
While Lockheed remains a partner, people involved in the discussions say talks with the US company stalled over concerns in Tokyo that the aircraft would use US technology designed for the F-22 and F-35.

That would limit the use of Japanese technology, resulting in a "black box" fighter with no access to the source code required for independent upgrades — something the Japanese air force would like and many lawmakers consider essential to sovereignty. "Japan is seeking flexibility with upgrades to the fighter jet so a black box is not acceptable. We can't touch the F-35," says Naohiko Abe, who heads MHI's defence and space business. "But in terms of whether it makes a difference working with the US or the UK, there isn't a big difference in terms of development from a corporate perspective."

Lockheed Martin declined to comment specifically on talks between the governments of the US and Japan but said it had a "longstanding partnership" with Tokyo. The company was "standing ready as the government of Japan considers its F-X partnerships".

The question of how much control Japan should have in developing the new fighter jet, however, is also an emotional debate that is partially driven by nationalistic sentiment.

The resentment towards the US within some corners of Japan's defence community stems from its contentious history in developing MHI's F-2 fighter jets, which are set to retire in the mid-2030s. In the late 1980s, Japan had initially aimed to develop its own F-2 aircraft but its ambitions for a homegrown design were crushed by pressure from the US during a period of intense bilateral trade tensions.



Some on the US side believe negotiations over the F-X were fraught with emotions for the Japanese. "It is difficult to overstate how much bravado and national feeling is tied up in this fighter discussion," says a former senior officer in the US Navy.

A person working for a US company directly involved in the discussions says the nationalistic tendency at times appeared to override the main objective of the fighter jet programme.

"Sometimes it appeared that people were forgetting the reason why they were making this fighter jet in the first place and the mindset was missing that they needed equipment that was necessary to address a stronger China. It just became a question of who was making the aircraft and who the partner should be," the person says.

'A relationship of equals'

Japanese lawmakers, industry experts and executives say a closer partnership with the UK makes sense both strategically and financially. In December, the two countries are also set to sign a major defence pact that will make joint exercises and logistics co-operation easier.

"The UK and Japan have similar defence budgets, similar requirements in the same timeframe as the UK and, like us, they need to be interoperable with the US," says Charles Woodburn, chief executive of BAE Systems.

Japan began considering the UK as a potential partner for its new fighter jet about seven years ago, and talks accelerated in late 2017 during a meeting in London between the foreign and defence ministers of the countries, according to two people with direct knowledge of the discussions.

"I've consistently argued that we need a relationship of equals," says Itsunori Onodera, who was Japan's defence minister in 2017, adding that his country had repeatedly checked with the UK whether they would be willing to share technology as partners. "If they can do that, we can make more aircraft and bring down the cost while there could potentially be bigger volumes if the UK can export to Nato countries," he says.

The UK has a "strong history of collaborations in defence", says a European industry executive familiar with the talks, pointing to the Eurofighter programme, built by BAE Systems, Airbus and Leonardo. "We don't want to partner with countries that are not up to the mark on this," the executive adds. "We don't want any passengers."

One initial hurdle was the different size of the aircraft the UK and Japan had in mind, but they began working together on several studies in sensitive areas such as on engines, radar and propulsion technology.

Rolls-Royce, the aero-engine maker which is developing the engines for Tempest, announced last year it would work with Japan's IHI Corp to develop an engine demonstrator, while Leonardo and Mitsubishi Electric have been collaborating on joint studies for years.

Progress has been made at the technical level, according to people familiar with the situation, although issues surrounding intellectual property and export controls still need to be resolved.

Leonardo UK's Bone says there was a "natural alignment" between the UK and Japan's air force since both countries were trying to "achieve similar things with similar worries and similar threats".

> '[It] will expand Japan's network to Europe . . . while potentially making exports possible'

According to Barrie of the IISS, another reason driving the partnership between the UK and Japan is likely to be the development by China of a stealth combat jet.

"For the first time possibly ever, the kind of threat platform that the two countries are baselining their needs on is a Chinese aircraft — the Chengdu J-20," he says. "[It is] one of the threat drivers for the UK and Japan in terms of what kind of combat aircraft they might need in the future."

Flying business

The UK, Japan and Italy have now entered the final phase of discussions, focusing both on how the costs will be shared and also to what extent the F-X and Tempest can be integrated, according to people familiar with the talks.

Two of those people say negotiators have yet to agree on how the costs will be shared between the countries. Japan plans to raise its defence budget by about 11 per cent to more than ¥6tn ($42bn) for the year to March 2024, including a request for ¥143.2bn to develop the new fighter. The British government has said it would commit an initial £2bn towards the project.

But both countries face pressure to cut the development costs and are seeking a greater contribution from Italy. Although Rome recently increased its financial commitments to the programme, it may struggle given the budget demands, according to Trevor Taylor, professorial research fellow at the Royal United Services Institute.

> 'Because of the changing global situation, there may be more US comfort with [the joint Japan-UK-Italy plan] than there would have been in the past'

A full business case for the Tempest F-X will need to be presented to partner governments in 2025, at which point they will need to commit.

Bringing Japan on board as a fully fledged partner would not only help increase "affordability and scale," said Taylor in the recent note, it would also potentially open up the Indo-Pacific market as an avenue for export sales.

It still remains unclear how much the Tempest and F-X programmes can be merged. Japan is considering using digital engineering technology for the F-X. Such a method could save costs as well as making it easier for the Tempest and the F-X to have a common architecture but distinct features, according to Simon Chelton, a former UK defence attaché in Japan and an associate fellow of the Royal United Services Institute.

Japan's defence ministry declined to comment on details, saying it was going to decide on the broader framework of the collaboration with the UK and Italy by year-end. The UK Ministry of Defence reiterated that work on the "joint concept analysis" was continuing with Japan and Italy. Further decisions were "expected to be made by the end of 2022", it added.

While the UK has a history of sharing technology with its partners, industry executives have questioned whether it can provide full disclosure to Japan considering that Tokyo does not have a security vetting system that is comparable to the US and the UK. Since the fighter jet will need to be interoperable with the US, people involved in the discussions have raised the possibility that Washington may intervene if the UK were to share sensitive tech with Japan.

Leonardo's Bone stressed that "security processes will get harmonised to an appropriate level" before any formal partnership is agreed, while Japan's MoD said there was a bilateral intelligence sharing agreement with the UK.

Time, however, is running short if the countries are to meet their ambition to have a jet in service by 2035. The rival Franco-German-Spanish project, the Future Combat Air System, has been struggling to achieve lift-off but is close to reaching the next critical phase.

Industry executives say the Tempest F-X project needs to work not only for the nations involved, but for the US too. Washington, which needs its allies to boost their defence capability to counter China's military rise, has welcomed the UK's recent Indo-Pacific focus.

"The US side is obviously looking at this [joint Japan-UK-Italy programme] very carefully, and, because of the changing global situation and threats, there may be more US comfort with it than there would have been in the past," says Lance Gatling, a veteran defence consultant at Nexial Research.

"At this stage, the US may not stand too much in the way of its allies getting stronger, even if it means letting these projects happen. I think the US side also knows that, in the end, it will somehow be involved."

The FT View

FINANCIAL TIMES
'Without fear and without favour'

ft.com/opinion

Chinese takeovers become a geopolitical frontline

Semiconductors blur the line between national security and national interest

Newport in south Wales finds itself on an unlikely geopolitical faultline. The UK government cited national security concerns to retrospectively block the sale of one of Britain's biggest semiconductor plants, Newport Wafer Fab, to a Dutch company owned by China's Wingtech. The UK is not alone: Germany has blocked two similar deals, with its vice-chancellor, Robert Habeck, accusing China of pursuing a "deliberate strategy" of "trying to acquire knowledge" in the sector.

The decisions risk being perceived as China-bashing. The west must try to balance legitimate concerns about strategic assets falling into potential adversaries' hands with actions that could stoke the idea it is trying to hold back China — or that it is pursuing industrial strategy through the back door.

The pandemic and Russia's war in Ukraine underscored the need to secure supply chains, as well as the folly of over-reliance on a hostile regime. The UK and German decisions follow sweeping US controls on high-tech chips. US congressmen raised concerns over Newport Wafer's sale, leading critics to allege pressure from Washington — though that is to ignore the number of China hawks in the UK government.

Wrapping industrial strategy and protectionism in the mantle of national security is wrong. But the role of Chinese companies' in these deals, and the fact they involve semiconductors, makes the line hard to draw. That is particularly true in the context of a more assertive China and concerns it could invade Taiwan, which dominates advanced semiconductor manufacturing.

Under a 2017 law, Chinese companies are required to co-operate with Beijing's intelligence apparatus. That means a mooted Chinese acquisition in another country's strategic sectors becomes a more loaded proposition. This is not limited to semiconductors: concern has been expressed over Cosco's stakes in the ports of Piraeus and Hamburg. Beijing can theoretically require the shipping giant to provide support to the Chinese navy wherever Cosco operates.

Semiconductors also blur the definition of a security threat. They power everything from smartphones to cars but they also have military applications. This is why Joe Biden's export controls — although ostensibly to stop military technology falling into the hands of Beijing — are so far-reaching. Securing even a small role in this global supply chain can itself be a national security concern.

The UK decision has nevertheless baffled many. Newport Wafer's technology is not cutting edge — though the plant sits within a cluster specialising in compounds that can have advanced uses. The government's reasoning, beyond a one-page document, is not clear. It does not help that there is no definition of national security in the legislation under which the deal was blocked. The company can mount a legal challenge but much of the government's deliberations would be classified, making it hard for judges to consider underlying principles. Such murkiness reduces predictability for the foreign investment on which Britain relies.

> If a country decides to choke off investment streams for a capital-intensive sector, it is vital that it then nurture that industry

If a country decides to choke off investment streams for a capital-intensive sector such as semiconductors, it is vital it then nurture that industry. The US and EU have announced support packages worth $52bn and €43bn respectively to grow domestic semiconductor industries. UK investment, meanwhile, is negligible. An overarching strategy is long overdue.

Trying to differentiate between the national interest and national security is hard when it comes to semiconductors. But a little transparency goes a long way, as would remembering that undue protectionism will inflate costs and exacerbate cross-border tensions.

Opinion Asia

Turtlenecks and nuclear power in favour in Japan

Maria Hergueta

Leo Lewis

Winter is coming, and so is the turtleneck: usually snug, often flattering, now on sale at Uniqlo for ¥2,990 ($21.50) and, as of last week, a localised Japanese metric of global misery.

The garment's unexpected new promoter-in-chief is Yuriko Koike, the Tokyo governor who led the world's biggest metropolis through the pandemic and must now prepare it for at least three frigid and costly months of life in an energy crisis.

The authorities had already warned the Japanese capital in early November to turn off unnecessary lighting (which it hasn't done), wrap up warm (which it hasn't yet needed to) and turn down the heating. Wear throat-warming turtlenecks, Koike subsequently recommended with a camera-friendly flourish, to reduce energy use while keeping things "fun and fashionable". Turtlenecks, of course, being far safer and easier to talk about than the thornier matter of restarting the nation's nuclear power plants.

> Ageing Japan, with often poorly insulated homes, is dependent on ever more expensive energy imports

Ostensibly, Koike's advice is sensible, if mildly patronising stuff at an precarious time. Ageing Japan, with its often very poorly insulated and usually electricity-heated homes, is overwhelmingly dependent on ever more expensive energy imports. At the FT's commodities summit in Singapore last week, there were few who saw the crisis lifting any time soon. The possibility of China adjusting its zero-Covid policies in 2023 could cause a surge in demand for key Japanese inputs such as LNG, and the weak yen will not help. Low-income families and Japan's huge, vulnerable cohort of pensioners will be hit — like those in Europe — with soaring bills.

But Japan's power generation industry is dysfunctional enough for the risk to be about more than price rises. Capacity constraints are severe. After a close call earlier this year, some energy experts put the likelihood of a Tokyo blackout at about 10 per cent should a protracted cold snap cause a surge in energy demand. Not unreasonably, Japan's business world is worried.

The question, then, is how far the turtlenecks — for all their cosy thermal qualities — are subtly intended to terrify. Well aware of her constraints as a metropolitan governor, Koike was vague about the consequences of failing to conserve electricity, though the public knows that they are bad. Electricity bill increases, after years without any, are scarily inevitable; blackouts could be straightforwardly deadly.

The public has also known, since the summer, that the central government and a range of industry lobbies crave its support for restarting more of the country's mostly idled fleet of nuclear reactors. The long attempt to shift Japan back to its pre-2011 reliance on nuclear power, and into a more definitively post-Fukushima era, appeared to have momentum, and much of that came from a public recognition that Russia's invasion of Ukraine had changed the calculus.

In August, before his approval ratings began to crater, prime minister Fumio Kishida was confident enough to pledge nuclear restarts, tout the massive LNG savings that would be made with every revived reactor and order a study into the construction of next-generation nuclear plants.

The restart plan has always hinged on local governments granting their approval — nods that have not been obviously forthcoming since Kishida's announcements, but may come more readily if this winter is presented as a choice between heating and blackouts, with only warm clothes offering margin for error.

The Tokyo equity market, meanwhile, appears to have made its call, with three stocks making the point. In a year when the overall Topix index has basically traded flat, shares in the Tokyo Electric Power Company have risen almost 75 per cent. Much of that, say investors, is driven by anticipation that amid rising inflation Tepco will gain approval to pass production costs on to households for the first time in a decade.

A second outlier has been Mitsubishi Heavy Industries, whose share price has risen nearly 92 per cent on expectations that its nuclear business will thrive on reactor restarts and, quite separately, that its defence business is about to benefit hugely from a historic increase in Japan's military budget. This is a stock, say investors, that is pricing in Kishida's ability to push forward on two major policies despite his low approval. On nuclear, the assumption is not necessarily that a Tokyo blackout happens, but that the background fear of one is enough to maintain momentum for restarts.

Slightly less spectacular, but still impressive, has been the 23 per cent run-up in shares of Uniqlo's parent, Fast Retailing. The company is coy about what has happened in the week since Koike's remarks. The market has already guessed this will be the winter of the turtleneck.

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Brussels plan for workers in the gig economy must go further

At the end of this month, the European Commission will vote on its proposed platform work directive. As the leading online delivery marketplace in Europe, we welcome the legislation. But it needs to go much further ("Uber, Lyft and DoorDash hit by gig work plan", Report, October 12).

With consumer demand for delivery growing rapidly, we should expect the number of couriers to rise sharply in the coming years. Many companies across the EU continue to prioritise cost savings and efficiency over giving riders the employment rights their customers usually enjoy. As a result, our sector is not competing on the same playing field, with some shouldering more employee and societal costs than others. If EU-wide regulation is not enforced across all jurisdictions now, companies with bogus self-employment models will continue to benefit at the expense of both couriers, who face increasingly precarious conditions, and society.

My belief is that the platform work directive will only be successful when all digital labour platforms are required to abide by the same rules and regulations. For that to become reality, we need to see three things. First, there must be no derogation in member states. EU-level legislation must protect workers' rights irrespective of local labour market regulation. Second, it needs strong enforcement. The directive must contain measures that allow operators who do not comply to be effectively sanctioned. Third, there should be a low threshold to activate legal presumption. The directive proposes several criteria to determine whether a platform is an "employer". In our view, this threshold needs to be lowered. If the platform determines the level or range of remuneration, closely supervises performance or verifies the quality of work, the person performing the work should not qualify as self-employed.

At Just Eat, we have demonstrated a model that can and does work. That is why we have chosen to employ tens of thousands of couriers. To replicate this, the EU must eradicate unacceptable self-employment constructions through swift reclassification and strong enforcement across all member states. In doing so, we will create a more equitable playing field for companies operating in the market and, more importantly, give workers the rights that they deserve.

Jitse Groen
Founder and Chief Executive
Just Eat Takeaway.com
Amsterdam, The Netherlands

Why Ireland struggles to kick the low-tax habit

The recent spate of job losses in Ireland's IT industry (Report, November 18) is the inevitable outcome of its over-dependence on a low-tax multinational sector.

Tax is the only substantial policy instrument to promote growth and employment available to small open economies like Ireland, operating in a monetary union. Ireland has been very successful in leveraging its ultra-low 12.5 per cent corporate tax regime to attract the Big Tech companies. There is, however, a downside to this model.

Governments grow used to, and become politically dependent on the "exceptional" revenues generated by mobile tech-titans attracted by low CT rates. They defer moving to a more sustainable fiscal business model. This vulnerability has long been evident in the case of Ireland. Wolfgang Münchau pointed it out in your columns as far back as 2016.

Ireland's business model is past its sell-by date, especially with the move towards global harmonisation of corporate tax rates. The consequences of this are now becoming evident in the "big shake out" in Big Tech in Ireland, and elsewhere.

Ray Kinsella
Ashford, County Wicklow, Ireland

Nordic businesses bridle at EU emergency powers

The European single market is one of the EU's biggest achievements and remains vital for Europe's growth, competitiveness and job creation. Nordic countries and companies thrive thanks to the free movement of goods, services, people and capital. Therefore, it is quite worrying that the commission is introducing a new instrument that favours interventionist measures of dubious efficacy rather than focusing on the four freedoms ("Brussels seeks greater crisis-fighting powers", Report, September 20).

The "single market emergency instrument" aims to ensure that the single market also works in times of crisis, such as a new pandemic. The ambition is good, but the proposal itself can seriously damage European businesses. The instrument includes burdensome measures such as new reporting requirements. Companies are to disclose sensitive company information, including production capacities, stockpiles and expected output — even in third country facilities. If the commission deems the crisis serious enough, it could even require companies to completely alter their order books. Companies can avoid such an order, but only if well-founded arguments are presented within 10 days of the request being made. The concern that European companies might be forced to over-rule their contractual obligations would nevertheless be very damaging in business interactions with partners within and outside of Europe.

What is the justification for these far-reaching powers? According to the commission, it is to ensure the availability of goods and services of strategic and crisis-relevant importance. But in the eyes of Nordic business, this approach is erroneous.

During the Covid-19 pandemic, our companies were both willing and able to swiftly — and voluntarily — prioritise the production of face masks, hand sanitisers and other necessary products. Businesses did not need top-down directives to do so. However, once they started producing the crisis-relevant goods and services, they found it extremely difficult to move them across national borders to where they were needed. Why? Because of disproportional national barriers to the free movement imposed due to Covid-19.

The message from Nordic businesses is therefore clear. The single market emergency instrument should focus on ensuring the free movement of goods, services and people — even in times of crisis.

Maintaining our freedoms would not only benefit Europe's crisis response. It would also mean that companies stay in business and that employees stay in work. That is what Europe needs when the next crisis hits.

Lars Sandahl Sørensen
CEO, Confederation of Danish Industry
Jan Olof Jacke
CEO, Swedish Enterprise
Jyri Häkämies
CEO, Confederation of Finnish Industries
Ole Erik Almlid
CEO, Confederation of Norwegian Enterprise
Sigurður Hannesson
CEO, Federation of Icelandic Industries

A growing list of books are being targeted in US school culture wars

The bill that Scotland and Wales want scrapped

We wholeheartedly agree with the signatories of the letter to Grant Shapps, the UK business secretary, regarding retained EU law ("Business and unions demand Sunak scraps planned bonfire of EU rules", Report, November 24).

The UK government's intention to discard vital standards and protections built up over 47 years of EU membership is at last getting the public attention it urgently demands.

The bill will cause significant confusion and disruption for businesses, working people and those seeking to protect the environment. It will bring uncertainty to established legal principles and has the potential to disrupt trade with the EU. Indeed, EU commission vice-president Maroš Šefčovič has noted that "more divergence means more friction and less trade" — neither of which is in the interests of anyone in this cost of living crisis.

Welsh and Scottish ministers registered their opposition to this entirely unnecessary and misguided piece of legislation by recommending their parliaments in Edinburgh and Cardiff withhold their consent for the retained EU law (revocation and reform) bill.

This bill allows UK ministers to take decisions in policy areas that are devolved to the Welsh senedd and the Scottish parliament and to do so without consultation or the need for their consent. Convention requires the UK government to adjust legislation to reflect the will of elected representatives of the devolved parliaments. We urge that the UK government withdraw the bill.

Angus Robertson MSP
Cabinet Secretary for Constitution, External Affairs and Culture, Scottish Government
Mick Antoniw MS
Counsel General and Minister for the Constitution, Welsh Government

A parent's warning of an Alexandria library inferno

I am grateful to the FT for covering the story of politicians and parent groups in the US stepping up the hunt for publications they claim are inappropriate for children. It is a matter of the utmost importance that will affect our future generations (Report, FT.com, November 20).

The censorship is so painful to watch — it is appalling. The good news is that curious minds will quickly migrate towards the "banned list".

I am a mother of three. As parents we will not allow the Library of Alexandria to burn all over again.

Sandra Paulina Smieszek
Washington, DC, US

Southern Water 'among the best in the industry'

The suggestion that Southern Water is not being transparent with data around storm overflows is misleading ("Sewage storm: Water groups accused of 'dry spills'", Report, November 24).

Our Beachbuoy service, which provides live reporting 24/7, 365 days a year, is among the best in the industry for overflow data.

Our use of storm releases to prevent flooding reduced by nearly 50 per cent this year compared to last, in part due to a dry summer. We're investing £2bn to improve environmental performance and reduce spills, increasing storage capacity and working with partners to reduce the rain run-off entering the system.

This will reduce 80 per cent of pollution incidents by 2025 and substantially reduce use of storm overflows by 2030, by separating surface water.

Instead of just demanding calls to action, we are actually taking action and moving as quickly as we can. But with huge infrastructure challenges such as this, the solutions will not take effect immediately.

Toby Willison
Director of Quality and Environment, Southern Water, Worthing, UK

Mundane reason agents are hard to track down

What an interesting article by Anne Sebba ("Great Escapes", Life & Arts, November 19) retracing the Pyrenees journey taken in 1944 by a 21-year-old secret agent leading downed allied pilots to safety over the mountains.

In the article, the author wonders why more is not known about people such as Colette, the Special Operations Executive courier, whose real name was Anne-Marie Walters.

One answer might be mundane. As the war came to a close many were just anxious to return to civilian life and work with all the difficulties that existed in a postwar world.

A great family friend of mine, born Wanda Bernacki, escaped from France, having been betrayed at the age of 20.

Until her departure she had helped 487 allied airmen and PoWs to escape down the line towards the Pyrenees.

In Scotland she joined the Polish forces (she had Polish heritage) and later married one of them and they moved to Lincolnshire.

Not only had she moved country she had also changed her name.

It was some years therefore before she was tracked down by former colleagues in France and also the French authorities so that she could be awarded medals and a national honour.

Michael Fielding
Winchester, Hampshire, UK

Opinion

The UK government should stop doing stupid stuff

BRITAIN

Martin Wolf

Barack Obama famously said "don't do stupid stuff". (Actually, he said something even stronger.) This is always good advice. It is particularly good advice for today's UK. It would be wonderful if it could start doing sensible stuff. But one must keep one's hopes in check. It should however surely be possible to stop doing really stupid stuff.

Brexit itself was stupid stuff. Few people with a serious knowledge of the matter doubt it. It has raised barriers against the country's closest neighbours and most important trade partners. As the Office for Budget Responsibility noted this month, "The latest evidence suggests that Brexit has had a significant adverse impact on UK trade." It has reduced overall trade volumes and the number of trading relationships between UK and EU firms. The OBR assumes, quite rationally, that "Brexit will result in the UK's trade intensity being 15 per cent lower in the long run than if the UK had remained in the EU". Meanwhile, "Global Britain" has evaporated as hopes of closer trade relations with China and the US have vanished.

While Brexit was stupid stuff, so is the idea that there is a simple way back into a closer relationship with the EU. Renewed membership is inconceivable. This is not only because it would exacerbate the UK's political civil war. It is also because EU members are too sensible to trust the UK to be an enthusiastic member of the EU as it is and is likely to become. From their point of view, the sight of the UK floundering outside is a helpful lesson on the dangers of exit. As important, Brexit has allowed the EU to progress faster than it would have done in the teeth of habitual UK obstruction.

Most alternatives to full membership — such as joining the single market, the customs union or both — would also restart the Brexit civil war, in both main parties. These options are also self-evidently worse than membership, since they would give obligations without a say in the rules. Moreover, once again, the EU has good reason not to trust the UK: its behaviour over the Northern Ireland protocol surely proves that.

Trying to alter the main features of the current unhappy relationship is pointless. But that cannot justify making things even worse. It is, for example,

> Pursuing change only if there is no good alternative will avoid making things even worse

a fundamental conservative principle that one only makes change if there is no good alternative to doing so. Change is itself costly. So, what possible sense can there be to the "retained EU law bill", a plan to "review or revoke" up to 4,000 pieces of EU-derived law that form the basis for much of today's national life? This will simply further increase uncertainty and costs of doing business.

Sensible businesses do not want to operate under a multiplicity of different regulatory regimes. That was the logic of Margaret Thatcher's single market project, apparently something Brexiters remain unable to understand. This sort of plan has to make the UK ever less "investable". The dismal statistics on UK investment do not belie this fear.

What would have been a positively sensible approach for British policymakers to take? It would surely have started from a realistic view of weaknesses and priorities. Consider the difficulty of building on undeveloped land, the failure to make buildings more energy efficient, the persistent regional inequality, the over-centralisation of government, the chronically low national savings and investment rates, the failure of pension funds to invest in the productive capital of the country, the failure to build world-scale companies and the longstanding failure to raise skills to a sufficiently high level.

None of this had anything to do with the EU. But all of it had long been "too difficult" to do anything about. So, instead, we have Brexit as a diversionary exercise, culminating in the Liz Truss and Kwasi Kwarteng show, which was as ill-timed and irresponsible as it was intellectually vacuous. That was Brexit as performance art in its purest form.

I have little hope that this government will do anything much positive before the next general election, particularly in the midst of an energy and inflation crisis. But it is not too much to ask it to stop doing stupid things. So, do not consider regulatory changes unless they will clearly be for the better. Do not promise control over migration you cannot deliver. Do not stick to the option of divergence on food standards, which makes resolving the issue of Northern Ireland so intractable. But do try hard to preserve the ability of our scientists to co-operate closely with their European peers. And, not least, do stop the endless barking by the British bulldog.

Tackling big problems may now be impossible. But, even though the government is now in a deep hole, it can at least stop digging it deeper.

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Digital trade must not be a zero-sum game

Matt Kenyon

BUSINESS

Rana Foroohar

The future is digital, and nowhere more so than in trade. While cross-border trade in many traditional goods and services has flattened over the past decade, trade in data, digital services, intellectual property and even international students (despite a brief pandemic-related blip) is booming.

Between 2010 and 2019, trade flows linked to almost anything to do with knowledge grew twice as fast as those of traditional goods. And some areas grew even faster during the pandemic thanks to the boom in all things digital, according to the latest McKinsey Global Institute tally of global value chains.

This is good news — it is crucial that ideas and data flow across borders. But it also presents both old and new challenges.

Into the former category falls the question of how to make sure that digital trade doesn't become a global race to the bottom as multinational companies move jobs and data to areas with cheaper labour and fewer privacy protections. And in the latter category, policymakers, labour leaders and businesses need to consider how this intangible trade is different from trade in traditional goods and services, and what this means for economics and politics at both the global and the local level.

Perhaps the most fundamental way in which trade in intangibles differs from traditional trade is that data isn't like a lump of coal or a length of steel — it can be used by many people, simultaneously. In theory, this should create a win-win scenario, not only for both sides of an individual transaction, but also for the countries through which cross-border data flows.

Yet in practice, information has a tendency to be monopolised. The network effect — in which more begets more — has created superstars in data-rich fields such as Big Tech and Big Pharma. These large companies tend to create much more linear supply chains, because it is both efficient and cost effective. According to MGI, trade concentration is most pronounced in knowledge-intensive and intangibles-heavy global value chains. Indeed, the six most concentrated value chains today all belong to this group — think Big Tech, electronic components, pharmaceuticals, etc.

Policymakers are already addressing some of these issues, with stronger antitrust efforts and new ways of thinking about the impact of the barter transactions that make up a large part of digital trade flows. In other areas, such as semiconductors, efforts are under way to increase regional production, which will allow more companies and countries into the sector's supply ecosystem. But in areas like pharmaceuticals, very little progress has been made to diversify flows (a 2021 White House supply chain review noted extreme concentration in pharmaceutical ingredients).

Multinational companies control most digital trade, and as with the traditional equivalent, they have an incentive to move work and data wherever is most convenient and profitable for them. While the majority of trade in intangibles is still concentrated in OECD countries, there is a trend towards outsourcing more digital work to places such as the Philippines or India, where labour protections are scant.

"If we do new trade deals, like the Indo-Pacific trade framework, and there isn't enough protection for labour or consumer data in all countries, we're

> Data isn't like a lump of coal or a length of steel — it can be used by many people, simultaneously

going to end up in a worse place than before," says Chris Shelton, head of the Communications Workers of America, the union that represents roughly half a million digital workers.

These concerns are further exacerbated by the fact that while working from home has been a boon to many employees in rich countries, it has also shown the extent to which white-collar knowledge work can be done from anywhere — and thus potentially outsourced. As one chief executive told me a year ago, "If you can do the job in Tahoe, you can do it in Bangalore." Little wonder then that the CWA is fielding more inquiries about union organising within the technology sector, healthcare, media and even finance.

Will digital trade flows mirror some of the problematic aspects of traditional trade? Or will they create new geographic dynamics? Part of this depends on the extent of US-China technology decoupling. It also depends on how connected digital flows are to the material world. The internet of things dramatically increases the flow of data within and between businesses, mirroring the boom in consumer data that followed the launch of the iPhone in 2007. "Digital trade isn't divorced from traditional trade," says MGI director Olivia White, "but it's unclear exactly what the casual arrows between the two are as of yet."

We need better ways of measuring knowledge flows. This was the topic of a recent IMF annual meeting on intangibles. Information flows are far more opaque than those of traditional goods. This makes it difficult to tally, tax and regulate them but it also makes it difficult to fully understand their effects on markets, workers and productivity.

Knowledge is something we as humans create, but it is also something that we trade. This truth lies at the heart of the digital economy. Information must be free to flow, but it must not become yet another arena in which the gains reaped by capital outweigh those of labour. If that happens, we can expect a white-collar backlash against digital trade.

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Industrial strategy demands a new deal with the private sector

Mariana Mazzucato

Industrial strategy is experiencing a renaissance. Provoked by multiple crises — financial, climate and health — countries around the world are investing heavily in promoting economic growth and resilience. The war in Ukraine, with its impact on supply chains, has made this even more important. The EU, for example, is investing more than €2tn in economic recovery and transformation while President Joe Biden is putting more than $2tn into a "modern American industrial strategy". Similar investments are being made from Japan to Latin America.

Last month, Biden's chief economic adviser compared the scale of investment and ambition behind the new US industrial strategy to the Apollo space programme. But this ambition will only be realised if the strategy fosters a new kind of economic growth. Crucial to this are the conditions that companies must meet to receive public funds.

If they are to "build back better" — rather than returning to the crisis-ridden status quo — growth must be inclusive and sustainable. To achieve this, governments need to strike a new deal with the private sector, raising the bar on what to expect in return for public funding. This requires approaching these partnerships as an opportunity to maximise public value — to share the rewards as well as the risks of investing in innovation and growth.

There are four types of conditions that governments should consider attaching to procurement, grants, loans and tax incentives.

Where affordable and equitable access is a policy priority, products and services with public funding should be priced accordingly. For example, the AstraZeneca Covid-19 vaccine, developed with the help of government investments in R&D, manufacturing, and advance sales, included provisions to keep prices low, limit profits during Covid and ensure knowledge-sharing for public health. This contrasts with the trend of monopoly pricing in the pharmaceutical industry and strategic patenting to block competitors.

Conditions can also shape the goals — or "missions" — behind investment and impose standards on companies. Decarbonising existing industries and expanding green innovation and growth is a priority. To tackle the climate crisis we need entrepreneurial states to shape

> Without conditions, public money will dissipate into shareholder profits with marginal taxpayer gain

and create markets. In the US, clean energy is a focus of recent investments while EU recovery funds are oriented towards climate and digital inclusion goals.

Achieving these goals requires more than just investing in specific green technologies or industries. Conditions associated with a just green transition should cut across all industrial strategy investments: for example, requiring new manufacturing capacity to minimise carbon emissions and create jobs that meet labour standards.

In addition, receipt of public funds should be conditional on sharing a proportion of royalties, equity or intellectual property with the government. This would enable the state to take a portfolio approach to investments, knowing some will succeed and some fail. If the US government had acquired shares in Tesla in exchange for its early-stage funding of $465mn, this revenue could have been reinvested in other companies aligned with green transition goals.

Last, governments can prompt companies to channel their own investments into productive activities. Biden's Chips and Science Act, which seeks to boost US semiconductor innovation and manufacturing, includes "guardrail" provisions that prohibit funds from being used for share buybacks. It does not yet, however, prohibit companies that receive chips act funding from engaging in such buybacks — a loophole that has led to calls for tougher rules.

The companies that lobbied for the act have previously spent billions on share buybacks — Apple, Microsoft, Cisco, and Google collectively spent $633bn on them between 2011 and 2020, for instance. Stringent conditions could require future profits be reinvested into research and development and workforce training.

Industrial strategy in many countries is still being shaped. The chips act, in particular, offers an immediate opportunity to impose conditions. Its existing "guardrail" requirements are a good starting point. But whether this act is a catalyst for green and inclusive growth — and not "corporate welfare" — will depend on the terms set in funding notices and contracts.

Without conditions, the public money flowing into industrial strategies will dissipate into company and shareholder profits with only marginal public gain. Getting these investments right should be a priority for governments everywhere.

The writer, a professor at UCL, will be delivering the Penrose Lectures at Soas this week

Scotland needs an offshore energy revolution

Anas Sarwar

Scotland is on the cusp of an offshore energy revolution — despite both the Scottish National party and the Conservatives' best attempts to squander it.

Nowhere is this missed potential clearer than in the case of ScotWind. The seabed leasing project has already given companies the rights to develop up to 25 gigawatts of power off Scotland's coasts and to build some of the biggest floating wind farms in the world.

While this is welcome, it fails to make the most of Scotland's potential because the public has not been given a direct stake. Licences sold cheaply to foreign companies (themselves often state-owned) and weak procurement terms mean the SNP government has left money and jobs on the table.

We are in the ludicrous position where Vattenfall — a publicly owned company in Sweden — will profit more from wind farms off our coast than taxpayers in Scotland. This is not the only example of a wasted opportunity. The SNP promised the country a national energy company — this has now been scrapped. A nationalist commitment to 130,000 green energy jobs that would turn Scotland into "the Saudi Arabia of renewables" has vanished like a mirage.

The failure to reform planning laws leaves shovel-ready renewable projects languishing, while the two governments in Holyrood and in Westminster wonder aloud about how to prepare for a just transition from fossil fuels, including in the North Sea. Geography has surrounded the nation with the means to

> We have to make sure our companies and consumers reap the benefits of power produced on our shores

generate green power, populated by people with ideas to make it happen. We need change to make sure Scottish businesses and consumers reap the benefits of energy production on our shores.

Keir Starmer has committed to the creation of Great British Energy — a new publicly owned generating company — in the first year of a Labour government. GB Energy would transform the UK, and Scotland within it, into an energy superpower. It will harness Scotland's wind and waves (and yes, some sun) to create hundreds of thousands of jobs by 2030, cut energy bills and deliver energy security for our country. It would change lives and deliver on net zero targets.

Take ferries, for example. The SNP managed to turn the construction of two new ferries for Scotland's state-owned Scottish ferry operator from a little local difficulty into an international symbol of bungled procurement. Among the more bizarre decisions was the choice to make the two ferries, already five years overdue and millions of pounds over budget, run on liquid natural gas and diesel. LNG is the Betamax video of ferry fuels — the wrong answer that leads to a technological dead end and will not power the future.

On another western seaboard, in San Francisco Bay, a new fossil-free ferry, powered by hydrogen fuel cells, is being trialled. In Norway, always an important comparator for oil-rich Scotland, two hydrogen-fuelled ferries are planned for 2025 which will use 85 per cent green power. Closer to home, Caledonian Maritime Assets, the state-owned ferry provider, is involved in a project in Orkney to develop a small, inter-island ferry propelled by carbon-neutral hydrogen fuel. It is predicted that within a decade, most ship traffic will move using this form of fuel.

These trends suggest that we should use the wind power from around the coast of Scotland to produce clean fuel to power our ferries, container ships and much else. Hitting the UK's 10GW target for green hydrogen by 2030 would make the UK a world leader, providing clean storable power, decarbonising our industries and ensuring a secure supply.

For more than a decade, when it comes to capitalising on Scotland's energy resources, we have had ministers in both Edinburgh and London who have not made good on their promises. It's time to stop squandering our potential for generating green power and the high-skilled jobs that go with it.

The writer is leader of the Scottish Labour party

Rutherford Hall
Aloha from Doha and here's five seconds of solidarity
WORK & CAREERS

Get ready for a net zero corporate backlash

Pilita Clark
Business Life

Kenneth Andersson

Has business had it with net zero?

This question would have sounded daft a year ago at the UN-sponsored COP26 climate summit in Glasgow, where some of the world's best-known banks, airlines and carmakers flaunted their pledges to be part of a net zero emissions future.

UN envoys cheered the fact that at least a fifth of the world's 2,000 largest public companies had made a net zero commitment. Larry Fink, the boss of BlackRock, the world's largest asset management firm, came to Glasgow and later predicted every company and industry would be "transformed by the transition to a net zero world".

A year on at COP27, in the Egyptian resort of Sharm el-Sheikh, things looked very different. Corporate net zero vows had ballooned so much that over a third of the largest companies now had one. But a lack of robust rules had left "loopholes wide enough to drive a diesel truck through", said UN secretary-general António Guterres.

Catherine McKenna, Canada's former environment minister, told COP27 that too many pledges were "little more than empty slogans and hype".

She chairs a group of experts the UN appointed to assess the mushrooming net zero promises from companies, cities and regions.

And a bracing report the group released at COP27 concluded "dishonest climate accounting" had to stop. That meant companies could not claim to be net zero while continuing to build or finance new supplies of fossil fuels. Instead of relying on cheap and often dodgy carbon credits to offset their carbon pollution, firms should focus on cutting their own emissions, including those generated by users of their products or services.

They should base their net zero plans on absolute emissions reductions, not lower carbon intensity, or emissions per unit of output. They shouldn't lobby against government climate policies and they should report annually on their decarbonising progress in disclosures that governments should make mandatory.

> **"Executives felt exhausted at the idea of needing to win yet more internal support for onerous UN rules"**

This advice is in line with the need to nearly halve global emissions by 2030 to meet the Paris agreement's goal to keep temperatures at safer levels. So it was widely applauded at COP27, with one vivid exception. A lot of business executives were incensed. Some, especially those from the US, were used to hearing their net zero plans branded too weak (by climate campaigners) or too harsh and "woke" (by some politicians) or too legally fraught (by lawyers). But the UN message was painful, especially for sustainability executives who had spent years persuading sceptical bosses to make a net zero pledge in the first place.

Here's a flavour of what I heard: some executives felt "exhausted and demoralised" at the idea of needing to win yet more internal support for onerous UN-backed rules. Others said it was "ludicrous" for the UN to back, say, mandatory disclosure of net zero plans that did not exist in many member countries. And did the UN even have the right to campaign for such rules "like an NGO"?

It is important to say green energy businesses had very different views. The UN report delivered an "important cat among the pigeons", said Ben Backwell, chief executive of the Global Wind Energy Council. But others are asking if it could unintentionally stall the growth of corporate net zero vows, says Huw van Steenis, a partner at the Oliver Wyman management consultancy who is steeped in corporate climate policymaking.

This is possible. A South Pole climate consultancy survey of more than 1,200 large companies found a quarter did not plan to publicise their net zero achievements "beyond the bare minimum". The exact cause of this so-called green-hushing is unclear and worried South Pole. But it is also entirely predictable. Trying to cut emissions to nearly zero was always going to cause problems for businesses as the world enters the uncharted territory of trying to transform an energy system dominated by fossil fuels in a matter of years, not decades.

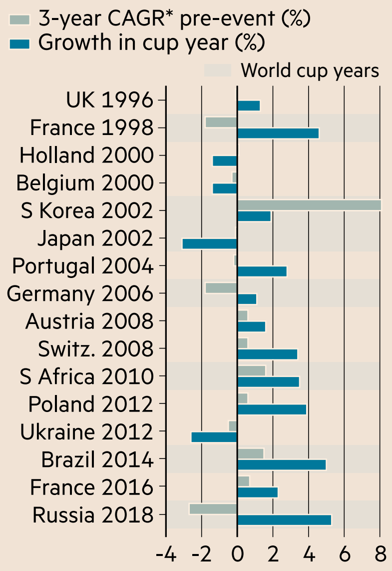
The shift was bound to be messy and difficult, and it has only just begun. Stand by for much deeper disarray — especially if the net zero effort fails and emissions stay at the dangerous levels they are at today.

pilita.clark@ft.com

Lex.

Football and beer: hop properties

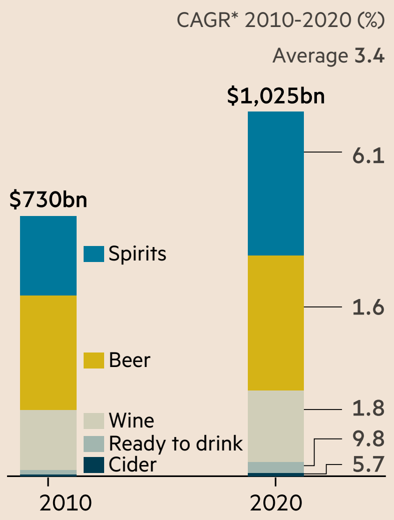
World Cup and Euros boost beer sales



FT graphic Source: Bernstein

Beer sales lag behind spirits

Retail value of alcoholic drinks market



Source: Diageo *Compound annual growth rate

Beer and football cannot be rent asunder. That, at least, is the opinion of fans in the UK and many countries besides. Budweiser owner AB InBev, the brewing behemoth that paid $75mn to sponsor the 2022 World Cup, probably feels the same way. But the sentiment is not universally shared, as those travelling to Qatar have discovered. The World Cup host nation has banned beer from its stadiums. Alcohol will still be available in hospitality suites.

The association between sporting events and beer has traditionally been strong. Hosting a big tournament typically adds an average of 1.4 per cent to the host country's beer sales, according to Bernstein analysis. Not this year. As a Muslim country, Qatar does not have a drinking culture. And past experience suggests that there is no beer dividend in spectator countries — even those with a strong football and pub culture such as the UK.

There are other clouds on alcohol's horizon, too. In countries where drinking is deeply ingrained — France, Germany and the UK — consumption declined between 2012 and 2019. The trend was more pronounced in the first half of the period and may have reversed in the pandemic.

As for future demand, drinks companies watch the behaviour of Generation Z with some apprehension. In the US, the proportion of teetotal college-age adults has climbed in the past decade, according to University of Michigan research.

But it is by no means doom and gloom for the beverage giants. Spirits have been a bright spot, led by the *baijiu* market in China. UK-listed drinks giant Diageo has decent brands in this segment, ranging from Johnnie Walker whisky to Smirnoff vodka. And these big brands have pricing power. Despite rising input costs and straitened consumer finances, Diageo is set to raise its return on equity by 9 percentage points to 57 per cent by 2025, on Barclays' estimates.

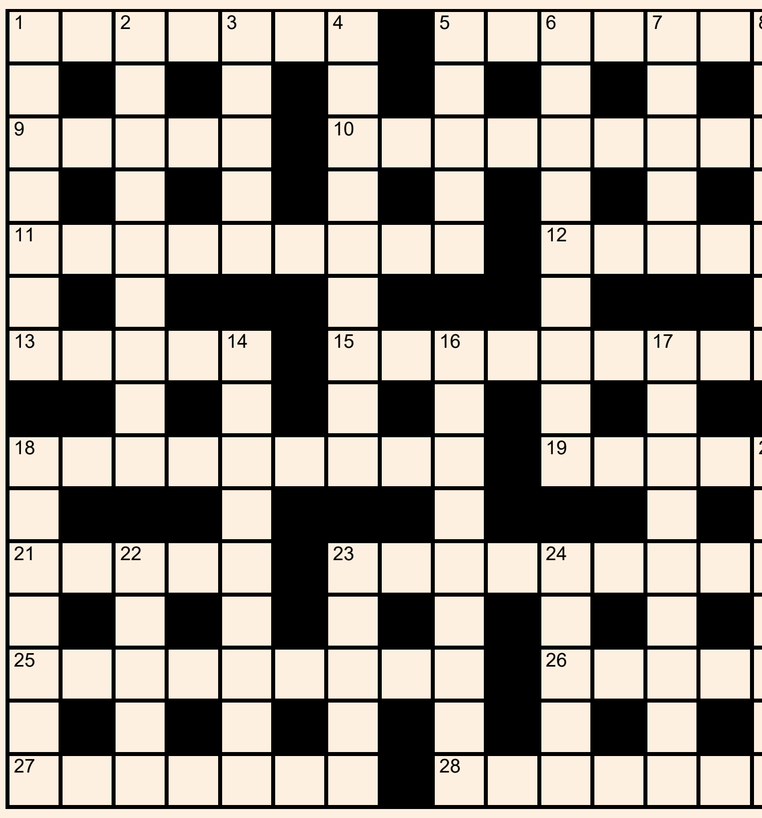
Beer is the traditional drink of men with tough physical jobs, a declining demographic. Consumption has declined in the US. But here, too, drinkers are trading up. AB InBev reported that sales of its "above-core" portfolio, which includes Corona, Stella Artois and Budweiser, grew by almost 13 per cent in the third quarter.

All this helps explain why both Diageo, on 21 times forward earnings, and AB InBev, on 19 times, are trading at a premium to the wider market. A dry World Cup is not going to change that.

NIKKEI Asia The voice of the Asian century

CROSSWORD

No 17,263 Set by GURNEY



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10 Pub artist with something to chew, a fish (9)
11 The very thing, popular — period railway journey plan (9)
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JOTTER PAD

Solution 17,261

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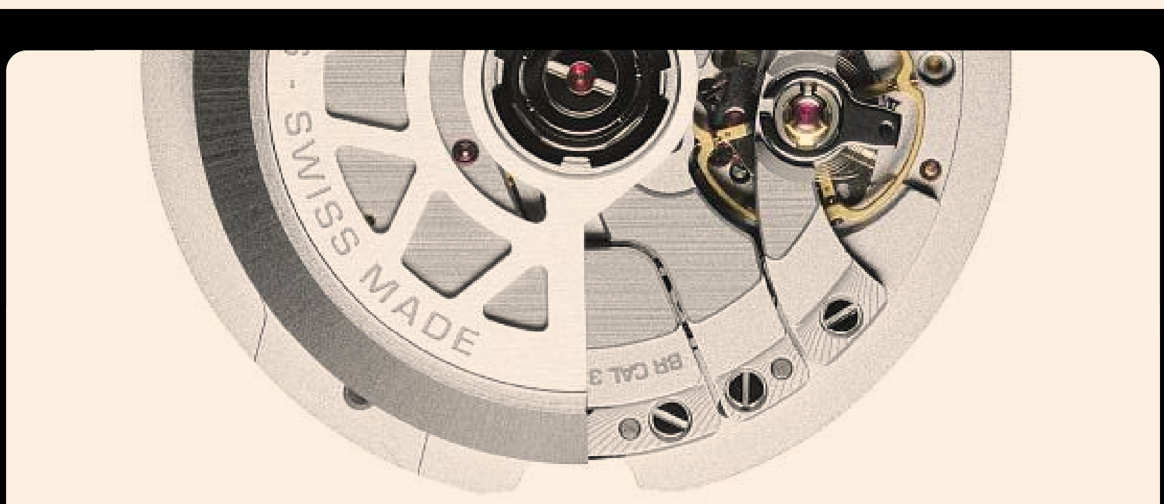

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Health at Work

Monday November 28 2022 www.ft.com/reports

Illustrations: Alex Hahn

Britain faces up to its struggling workforce

Inside

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Getty Images

How better management can tackle causes of stress

From financial counselling and meeting-free time to cycle races organised by staff "affinity" groups, employers around the world are exploring multiple ways to boost the mental and physical health of staff in a post-pandemic world.

Wellbeing in the workplace was, for many years, an incidental add-on, involving one-off interventions to encourage greater physical activity or healthy eating — such as the provision of fruit in the canteen or subsidised gym membership. But there are now more wide-ranging approaches to address mental wellbeing that tackle the underlying structural causes of workplace stress, rooted in how organisations are managed.

There is a clear economic case for action: reduced physical and mental health is associated with lower performance, due to absenteeism as well as presenteeism, where staff come to work but underperform. And other worrying trends have been intensified by the pandemic — not least the high proportion of working-age people withdrawing from the workforce entirely, raising concerns for the economy and individual employers.

All of these factors are captured in the latest awards for Britain's Healthiest Workplace, run by Vitality in partnership with Aon, Rand Europe, the University of Cambridge and the Financial Times. Together, they explored the state of the country's workforce, identified trends and distilled best practices based on more than 8,500 responses from staff in 251 public and private sector organisations.

Overall, the data point to a growing burden of fatigue and depression since the first edition of the awards in 2014, coupled with continued reports of underlying chronic conditions, musculoskeletal concerns, and insufficient exercise and sleep.

One of the most significant shifts during Covid-19 was towards different patterns of workforce organisation, with a significant rise in hybrid working. These trends continue and, for those able to operate in this way, the survey suggests they bring greater productivity, higher job satisfaction and less ill health.

However, while there is enhanced interest in programmes to support employee wellness, and no shortage of consultants and services, the evidence on what works remains thin. Cary Cooper, a professor of organisational psychology at Manchester university, says rigorous studies are rare and difficult to conduct. "Organisational researchers feel they can't get work on them published and employers don't want to waste time doing them," he says. His own research, backed by discussions with the National Forum for Health and Wellbeing at Work, a network of senior UK executives that he oversees, points to the need to tackle the underlying structural reasons for employee stress, frequently rooted in poor management practices.

Cooper argues that reduced workplace stress and improved productivity is linked to factors including autonomy, a sense of purpose among staff and empathetic management. "It's all about the line manager — from the shop floor to the top floor," he says. "They need to have interpersonal, social and empathetic skills. But we promote them today based on technical expertise."

The Britain's Healthiest Workplace awards at least point in the direction of trends and best practices that merit greater attention in future. *Andrew Jack*

Inside Health at Work

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Effective initiatives become critical for ailing British workers

Tough times ahead make workplace health interventions more urgent but evidence of the impact of specific measures is scant. By *Andrew Jack*

If the British workforce were an individual human being, it would be in rather poor health: tired, overweight and depressed, with a poor diet — and unproductive, or off sick, for seven weeks during the past year.

That is the snapshot of the workforce provided by this year's Britain's Healthiest Workplace survey, as the nation emerges from two years of pandemic in worse shape. It offers worrying findings for individuals, employers, and the country overall.

The results, based on responses from more than 8,500 workers in 251 private and public sector organisations between March and September this year, offer insights into habits, feelings and practices — with lessons for the health of the nation and the prospects for the economy. The survey and associated awards are funded by Vitality, in partnership with Aeon, Rand Europe, Cambridge university and the Financial Times, which jointly help to oversee the analysis.

Most striking is the poor state of employees' mental health. More than a tenth reported symptoms of depression — double the proportion in the same survey in 2014, and the figure had been steadily rising even before the pandemic. Twenty per cent said they had experienced burnout.

While the individual respondents vary from year to year, the findings are supported by the sample size and similar data. A survey for the charity Business in the Community, by pollster YouGov, showed 36 per cent of employees experienced work-related poor mental health.

This affects employers and the wider economy, as staff prove less productive, with some dropping out of work entirely. "We're in a situation for the first time, probably, since the industrial revolution, where health and wellbeing are in retreat," said Andy Haldane, former Bank of England chief economist, in a speech last month. "Having been an accelerator of wellbeing for the last 200 years, health is now serving as a brake in the rise of growth and wellbeing of our citizens."

Poor sleep and musculoskeletal problems featured in the survey — both are linked with mental ill health and stress. Thirty per cent of respondents said they slept less than seven hours a night, and more than four-fifths reported at least one musculoskeletal condition.

The good news — insofar as cause and effect can be teased out — is that those who were able to work in a hybrid fashion between workplace and home had the lowest overall number of unproductive days, at 47.

People who worked from home believed they had a better work-life balance than other workers and had less burnout — although they also had a higher rate of long Covid symptoms and were less satisfied with their jobs than hybrid workers or those based in offices.

But the reality is that these figures, like others in the survey, vary widely between workers when broken down by factors including employment sector, age, gender, income and region of the UK. Many have little scope to choose their working patterns. People earning more than £120,000 a year reported strikingly fewer days lost to unproductive time, for instance.

Worryingly, productive time lost to sickness or presenteeism — when people are at work but not doing much actual work — was far higher for younger staff (aged below 30), at more than 61 days. These groups reported higher levels of depression, financial insecurity, burnout and job dissatisfaction than their elders. They also drank less alcohol.

Women had higher absence rates than men, and respondents who declared as neither male nor female reported far greater loss of productive days, more problems with sleep, depression and chronic health conditions, more dissatisfaction with their jobs, and a poorer work-life balance.

One surprise was that the level of financial insecurity — a driver of ill-health — was just 10 per cent on average. "Most people came out ahead during the pandemic", given government support schemes, says Chris van Stolk, executive vice-president at research company Rand Europe and an adviser to Britain's Healthiest Workplace. But, now that the UK appears to be leaving the worst of the pandemic behind and heading into a period of sluggish growth and austerity, the situation is likely to worsen.

"We know this next period will be even tougher. It's a burning platform," van Stolk says.

Some 78 per cent of respondents said their manager cared about the health and wellbeing of staff, but just a third believed their employer should play a more active role in helping them to maintain their health and wellbeing.

Many employers reported that they offer interventions on diet, physical activity, mental health, financial wellbeing, alcohol, smoking and sleep. Yet, setting aside mental ill health and days lost to work, physical wellbeing remains poor: nearly two-fifths said they were physically inactive, meaning they spent less than 150 minutes a week doing physical activity. More than half do not eat at least five portions of fruit or vegetables a day, and a quarter are obese (with a body mass index higher than 30).

One issue is how far line managers are sufficiently empowered to respond to the needs of their staff. Another is the level of awareness, use and effectiveness of the interventions offered. The survey showed that between a quarter and a half of workers were unaware of programmes on offer from their employers; and the proportion of staff who used them and found them to be effective varied widely.

The reality is that evidence for specific interventions remains limited.

> 'Most people came out ahead during the pandemic. This next period will be tougher'

Prof Dame Carol Black, a physician and health adviser to government, and chair of Britain's Healthiest Workplace, argues that the data point to a continued failure, despite growing activities in the workplace. "It tells us the interventions we thought would be helpful have not delivered," she says.

The challenge for public health specialists and employers alike during a tougher period ahead is how to better identify, test and implement interventions that demonstrably improve physical and mental wellbeing in the workplace.

Without further such efforts, the health of employees will continue to exert an ever greater drag on their organisations.

Pandemic fails to bring widespread shift in corporate Japan's attitudes to wellbeing

OPINION

Leo Lewis

In early 2020, as it became clear to the world that the Covid-19 pandemic would require an immediate and radical response, corporate Japan contemplated a near-overnight move to remote working. The prospects did not seem good; the results have been revealing.

Over decades, Japanese workplaces had established many practices and habits that together helped create a reputation for inflexibility, resistance to change, and an institutional dismissiveness over the wellbeing of staff.

Structural pressure on staff to work long hours, presenteeism, the persistence of archaic technologies, and a downplaying of mental health issues and abuse were among the most-cited factors in analyses of Japanese workplace pathology.

But, even as the benefits of remote working to quality of life became clearer — and employees sought flexibility to care for children or, increasingly in the world's most rapidly ageing society, elderly relatives — companies resisted.

Much of that resistance has come out of fear that hierarchies will crumble, and the pervasiveness of the idea that employees "owe" something to their employer that goes significantly beyond the work contract.

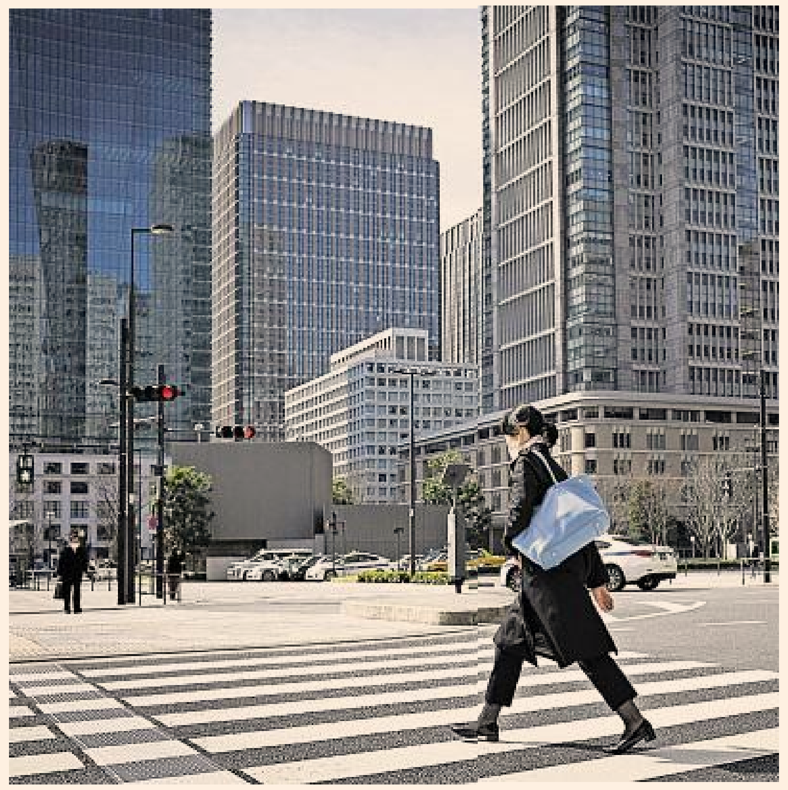
Expressions of this mindset abound. For example, in a 2019 survey by travel company Expedia, comparing the number of paid vacation days allowed versus the number actually used in G7 countries (plus South Korea), Japan came last.

In the UK, Canada, France and Germany, the ratios were all near or above 90 per cent. In Japan, where the figure was just 50 per cent, respondents described feelings of guilt about taking paid holidays at a time of labour shortage as well as a fear of being deemed unwilling to work.

In many cases, workplace inflexibility has persisted despite strengthening public criticism, employee distress, government attempts at top-down reform, and even tragedy. The death from overwork (*karoshi*) of a 24-year-old advertising executive at Dentsu in 2015 was widely interpreted at the time as a watershed moment — and prompted many companies to rewrite their rules on overtime.

There has been some progress since then but, say experts on workplace wellbeing, it has been slow.

In 2017 — the year in which Dentsu was formally charged over the death of its employee — total average hours worked in Japan fell by five hours from the previous year, to 1,926 hours. In 2018, the average fell by 25 hours and, in 2019, by 32 — a trend cautiously welcomed by advocates of higher standards of workplace wellbeing. The same government labour force survey found the number of workers putting in at least 60 hours a week was 3.6mn in 2020 — a decline of 1.57mn from the figure for 2017.



Back to work: Tokyo in March 2022
Bloomberg

The mothballing of many businesses and operations at the beginning of the pandemic meant that there were significant distortions to those trends in 2020. Last year, however, the hours began creeping up again.

So, the big question, as Japanese workplaces return to some post-pandemic normality, is whether the past two and a half years will result in permanent change.

The initial surprise, when Japan entered a voluntary lockdown in 2020, was how many larger companies found themselves able to switch to remote working. The assumption had been that many had neither the technology, nor the cultural propensity, to embrace remote working. That it took a crisis to demonstrate it was entirely possible provoked fury in many workplace chat rooms.

In June 2020, a study by Keio University in Tokyo suggested that, in some cases, the transition had been quicker than hoped, though mainly at large companies.

As a national average, the rate of remote working jumped from 6 per cent in January 2020 to 17 per cent in June. In some occupations, such as administration, management consultancy and data processing, the level rose above 30 per cent; for many others, the needle barely budged.

One year later, the study's researcher, Toshihiro Okubo, found the level of remote work was essentially unchanged.

The prevalence of remote work, he concluded, remains low in Japan because of corporate culture. Many Japanese companies, he says, have a long tradition of staff working together in the same room at the office and have a hierarchy with tight communication and lots of internal consultation.

"This system works well in team-based tasks, informal information-intensive work, [with] less discretion, less autonomy and more exchange of tacit knowledge," he says. "However, our findings suggest that all of those are unsuited to remote work," Okubo notes.

The risk to employee health, at this point, is that Japan returns to post-pandemic normality without any significant corporate reset in attitudes towards wellness.

"The past couple of years have highlighted the need to rework the Japanese office workplace and to more rapidly accelerate an understanding of the critical importance of wellness," says Peter Eadon-Clarke, an adviser to the Asian wellness consultancy Conceptasia. "Initiatives to reduce long working hours and stress, by both the government and private sector, have been slow and steady, but the need for urgency is now obvious."

> That it took a crisis to demonstrate remote working was entirely possible provoked fury

A survey by market research company Intage strongly suggests that workers themselves are even more pessimistic. In a report released in April, it found that just 18 per cent of employees surveyed said their working style had changed during the pandemic, and just 13 per cent predicted those changes would be permanent.

Japanese workers know, better than anyone, precisely how hard-drawn the invisible lines in the workplace are. They also know it will take more than a pandemic to shift them.

Leo Lewis is the FT's Asia business editor

Long Covid focuses employer minds

Disability support

Understanding of relapsing-remitting conditions remains poor. By *Sarah Neville*

Fresh outlook: Jack Gaskin says managing his own schedule has helped him adjust his working life to his condition
Quetzal Maucci, for the FT

When Jack Gaskin developed the stress-related condition psoriatic arthritis following the collapse of his business and a relationship break-up, he had hoped that employers would be understanding of his needs.

At times, the condition is disabling; at others, he can live not too differently to how he did before his diagnosis. He has discovered, however — as millions of workers have before him — that such "relapsing-remitting" conditions can be particularly challenging, not just for those living with them, but also for their bosses.

Describing his condition and its impact, the 39-year-old from Wallington in Surrey, explains that he initially developed psoriasis, the skin condition where "your immune system is confused and it attacks itself". After about eight months, however, an already testing illness evolved into psoriatic arthritis. "Your immune system is still confused, but it starts attacking your joints," he says. Gaskin highlights the support he has received in coping with this from the charity Arthritis Action.

As he concentrated on adapting to his new limitations, which included pain, fatigue and "brain fog", Gaskin took a relatively undemanding job at a coffee shop. But his employer and colleagues struggled with the notion that, while he was able to work normally some of the time, at others, his disease was disabling.

"I had to change my role, I think, four or five times because I just couldn't have managed it physically," he recalls. When managers saw him in pain "they'd let me sit down for a little bit longer". However, the condition changes daily, "so it's never a constant". This lack of a pattern was difficult for his employer to adjust to, he acknowledges and, after reducing his hours over the course of a year from 35 a week to 15, he decided to leave.

Now, Gaskin has co-founded a new business, Tea Joy, which sells bubble tea. He is sales director, a role that allows him to adjust his working life to his physical capabilities. "The good thing now is . . . I'm not on my feet as much," he notes — adding that, if he feels unwell during the day, he can always catch up with his work on his own schedule in the evening.

Employers have long been used to dealing with fixed disabilities — for example, accommodating wheelchair users — but the challenge of conditions that wax and wane has only come more clearly into focus since the advent of long Covid.

An estimated 2.1mn people living at home in the UK are afflicted with it. Despite recovering from the virus, they continue to suffer symptoms for months, even years, afterwards.

Underlining its significance, the Chartered Institute for Personnel and Development has issued material to help employers manage staff with long Covid. Ben Willmott, the CIPD's head of public policy, says it is "certainly something that employers are having to really think about". But many of "the principles around managing [and] supporting long Covid are similar to how you manage and support people with a range of other health conditions", he notes.

It is important, says Willmott, to have a culture where people "feel they can be open and honest" with managers and can highlight issues at an early stage, so they can be allowed some flexibility, preventing the problem from getting worse and requiring a long absence. A return-to-work interview can allow for discussions about flexibility and deal with "issues that might be a bit of a faultline in terms of their role or the things that might trigger them", Willmott adds.

> 'I would say you're lucky to have that employee, who will probably be the most positive person in the room'

Many businesses are still falling short, however. Anastasia Berry, policy manager at the MS Society, a research and campaign group for people with multiple sclerosis, suggests the government should help employers and employees "understand how people with MS and other relapsing conditions can be supported at work".

That should include information on the condition, recommended policies to help employers, and information on the legal duty to provide reasonable adjustments, Berry says. "There is not enough pressure on employers to ensure they support people living with MS to stay in work if they want to," she argues.

Shriti Pattani, president of the Society of Occupational Medicine, believes too many employers do not understand the specific contribution that can be made by an occupational health specialist, who will focus not on a staff member's constraints, but on what they are still able to do.

Employed by an NHS trust, Pattani has helped keep clinical staff with long Covid in the workforce by redeploying them to less physically demanding "virtual care" (governance) roles. Occupational health specialists, says Pattani, aim to "take away the idea that you need to be 100 per cent well to do your work. You don't need to be 100 per cent; you need to be well enough."

For employers that keep faith with staff who have relapsing-remitting conditions, the rewards are enormous, says Gaskin, who argues such conditions breed resilience. "I would say you're lucky to have that employee, [who] will probably be the most positive person in the room. Day-to-day things won't bother them, because they have a bigger understanding of what a real problem feels like."

They will also "work really, really hard to be seen as normal . . . and have a really positive impact", he adds, "All that person needs is just a little bit more empathy and a little bit more compassion".

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Health at Work

Office scenes of domesticity mask a few home truths

Workspace design
Softer aesthetics offer a sense of wellbeing but are still a form of control by employers, says *Edwin Heathcote*

Something odd happened during the interregnum of the pandemic. The office came home. And then it wouldn't leave. Those of us whose work could be done by laptop found unexpected spaces in our homes being reimagined as offices: landings, spare bedrooms, kitchen tables, dressing tables, beds, under-the-stairs Zoom rooms.

The boundary that might once have delineated home and work dissolved. And the strange thing about this is that it represents the exact opposite of what had been happening over the past couple of decades as the office attempted to convince us to hang around for longer, to chill, but to keep working, to treat it as a second home (one supercool co-working outfit adopted precisely that name).

This journey has taken us from the days of corporate uniformity, when the mid-century office was understood as a paragon of efficiency above all else, to the German notion of the *Bürolandschaft* (office landscape) as a more informal organising principle that started to prioritise autonomy and fluidity in the office.

It then passed through the hip advertising offices of the late 20th century, with their self-consciously quirky pop-culture references and loft style, to what we have today: an eclectic blend of techhub, play area and art installation, with only the vaguest hint of work.

The office has followed a trajectory of aesthetic entropy, from rigour to relaxation, in which wellbeing is prioritised over organisation and control. It is, of course, an illusion: control has simply shifted online, with our devices tracking our engagement with work far more rigorously than any office plan could ever facilitate. Nevertheless, the physical office environment has been slouching towards a kind of domesticity for decades.

In its early days, the office was a house. Those 18th-century, flat-fronted buildings of London, Amsterdam and New York might be chambers or offices. Business owners might live there too; their offices were just other rooms in the house. For most of the first half of the 20th century, the boss's office and the boardroom aimed to emulate the house, with the domestic comfort of fireplaces, plumply upholstered chairs, oil paintings, and mahogany writing desks. The suggestion was that this important man was at home in business; that, in this rarefied realm, work and home were not differentiated, and the visitor was transposed to a private, privileged realm where the usual accoutrements of the everyday office did not apply. Its panelled walls contained a memory of the intimacy and comfort of domesticity.

Even into the modernist mid-20th century, the executive suite maintained these trappings of home: the big desk, the family photos, the drinks cabinet, the private bathroom. In *From Bauhaus to Our House* (1981), Tom Wolfe joked about "every great law firm in New York mov[ing] without a sputter of protest into a glass-box office building . . . and then hir[ing] a decorator . . . to turn these mean cubes and grids into a horizontal fantasy of a Restoration townhouse".

> The look is concocted to evoke the feel of the kind of social, cool urban home you might aspire to

Some of this elitism survives in clubby corner offices, but the advance of the big-tech aesthetic has had a profound impact on the look of the office. Ironically, that pseudo-industrial loft look is itself drawn from a kind of urban domestic idyll. The artists who repopulated the empty lofts of downtown New York in the 1960s and 1970s reinvented the idea of the live-work space, melding labour and domesticity. It was that look, the creative ideal, that seeped out into the workplace, oozing through the big open offices of Silicon Valley.

This raw industrial environment replete with ducting, plywood and mix'n'match vintage furniture was intended to inculcate an impression of agency. Studies have shown that what workers want is a degree of control over their environment, to be able to adjust lighting, heating, perhaps even open a window. But most of these things remain impossible in the modern sealed office building. So, instead, they are given the illusion — with the facility to swap furniture around, to customise their workspace with photos and gewgaws, or move around to booths or breakout spaces and pseudo cafés — that they can influence their space. It remains a scam.

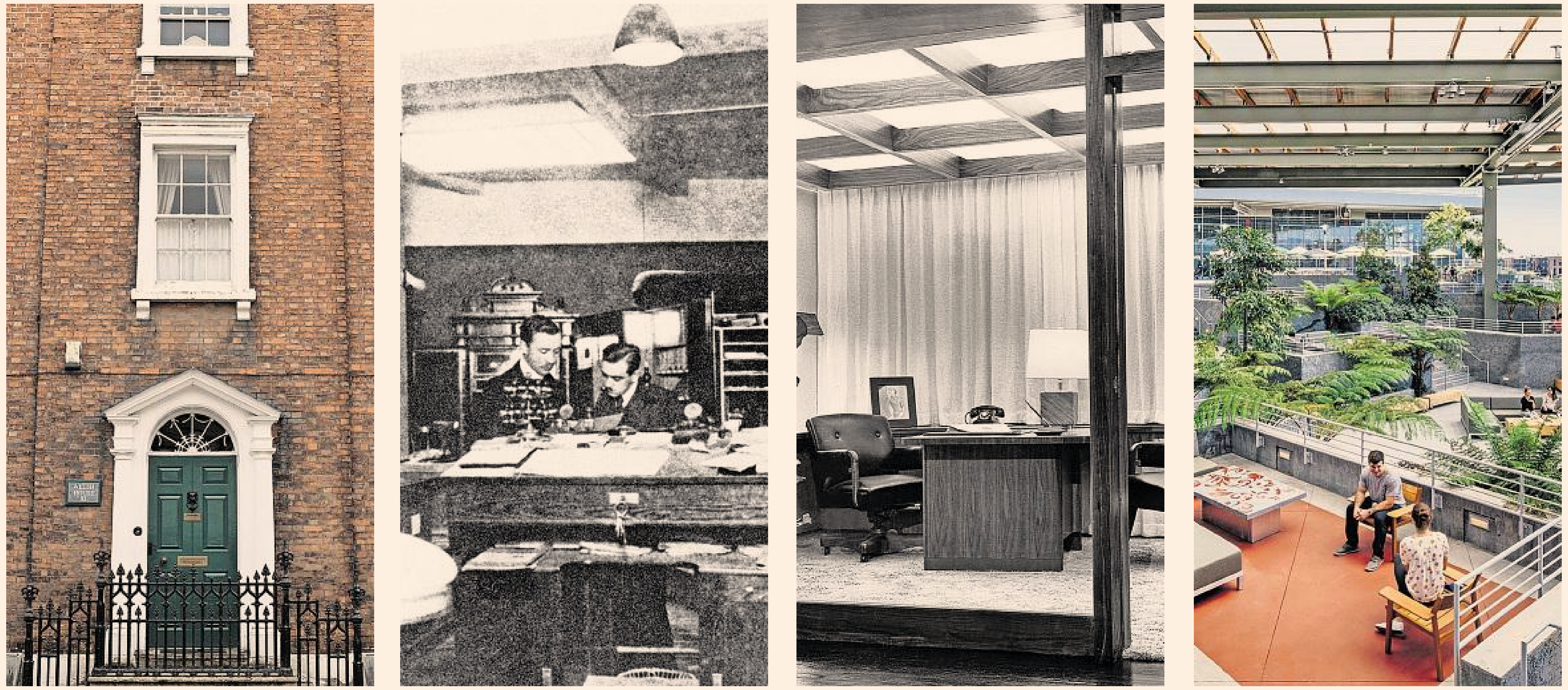
Despite all the rhetoric about wellbeing, collaboration and sociability, research has revealed that open-plan offices, with their attendant background noise, enforced amiability and conversation, and the sharing of space all negatively affected employee health. A comprehensive Danish report from 2011 showed that workers in open-plan offices took more sick days than those sharing small offices. Healthiest of all, perhaps not surprisingly, were those working in rooms of their own.

The more recent development, which spurs from a combination of tech aesthetics and co-working space, is a placelessness intended to echo the coffee shop, the workshop, or the spaces of cultural production. Stability and a sense of place have been undermined by hot-desking. The intent is to inculcate a sense of mobility and agility, of not being tied down. Yet, in essence, it is another ruse to save space, and one that is accelerating as offices thin out, with people continuing to work from home for much of the week. The look is deliberately domestic. Eclectic velvet upholstered sofas, rugs, modernist statement lamps, vintage sideboards, macramé, tropical plants, bookshelves, all concocted to evoke the feel of the kind of social, cool urban home you might aspire to (rather than the poky, suburban half-house or flat-share you probably have).

The twin domains of living and working have collapsed into one, so that a burger bar, a co-working space, an airport restaurant, a gallery and a hotel lobby have melded into a single continuous architectural platform. If the intention was to impart to the deracinated office worker an illusion of customisation and control, what happens when the space merges into such an interior?

The notion that homeliness is healthy, that an evocation of comfort in the corporate interior would entice us into spending more time at work, has become an insidious merging of labour and leisure. Free breakfasts and snacks, emotional support dogs, events, vintage chairs, graphics on the walls — it all appears as an effort to bring home into the office while our actual suboptimal home offices become less and less enticing.

But, if you have no permanent place in it, no assured presence, no sense of personal space and you cannot open a window to let a little fresh air in, this is not your home. What we really want, it turns out, is a nice private room with a window, a view and some stuff. And our colleagues nearby. But outside.



Changing places, from left: an 18th-century British house; at work in the early 20th century; a 1950s executive's office; a contemporary breakout space
Jackie Ellis, Sueddeutsche Zeitung, Interphoto/ Alamy; Hasselblad X1D

Construction industry can pave way to better support on mental health

OPINION
Mark Reynolds

It is no secret that the construction industry has a significant mental health challenge. The statistics, in particular those related to suicide, are both shocking and well documented.

People working in the UK construction industry are three times more likely to take their own lives than those in other sectors. That is a terrifying statistic and one the industry has been grappling with for several years.

With mental health conditions becoming more common, and growing economic challenges likely to affect the industry, we cannot afford to lose focus — we must take a radical approach.

The mental health challenge in the construction industry can be attributed to several factors, including lone working, unsociable hours, and work pressures.

But the main one is gender. The industry is still a male-dominated environment, particularly on building sites and, in general, men are not very good at opening up about their feelings and problems.

We know that talking about mental health is half the battle and, if a problem isn't shared, it isn't halved — rather, it becomes compounded.

Sadly, we have had a few cases in recent years where someone directly employed by Mace or one of our subcontractors has taken their own life. It is hugely traumatic for the whole project team. Construction sites have really close teams, so it hits everyone incredibly hard when a member is lost in such tragic circumstances. It is difficult to put into words how I feel, as chief executive, at such times. A deep sense of loss is what sits behind our ongoing efforts to prevent any such tragedy occurring in the future.

Over the past five years, the whole industry has opened up about mental health, but we still have a long way to go.

Challenging conformity to stereotypes that have existed for decades does not happen overnight and does not get fixed just because a chief executive or a head of human resources says it is "important that we talk more". Culture change is a slow and steady, and often complex, process.

It has to start at the top, but it is the people on the ground who make it meaningful and bring it to life. At Mace, we have worked hard to switch the perception from a corporate initiative to something that empowers colleagues of all levels.

As a result, we have seen great initiatives led by teams around the world, such as construction site stand-down talks and tea-break sessions with the charity Mates in Mind. We recently welcomed The Lions Barbers, a non-profit collective, to one of our construction sites in London. The barbers offer "haircuts and headspace" and are all trained in mental health support, known as BarberTalk.

We are still on a journey, but the engagement has been overwhelming and the results promising. In the past five years, the number of people who say they would be happy to discuss a mental health condition with their line manager has risen from 59 to 88 per cent, according to our annual employee survey.

Everyone has the right to work in a safe and healthy environment so, as business leaders, we need to view mental health as a growing business risk in the same way we do other risks.

Pause for thought: men should feel it is normal to talk about their feelings — PA

Aside from the moral argument, the financial toll of mental health on businesses is significant. With longer recovery times than physical illnesses, poor mental health is estimated to cost UK employers £56bn a year.

Industries must not wait until things reach a crisis point and simply signpost towards support services. Yes, we need to provide support for those who need it, but we must continue to invest in preventive measures, such as the design of work spaces, ways of working, behaviours, leadership training. We need to invest in the tools that enable people to stay well in work and prevent our workers from reaching crisis point.

The advent of ESG (environmental, social, and governance) investment strategies is providing a justification for putting wellbeing at the centre of any business plan and decision, and for social purpose-led goals to be woven into a company's culture. At Mace, we are working hard to become the most inclusive employer in our industry in the next few years, and that comes down to addressing a variety of factors that enable people to be themselves and, as a result, have more good days at work.

It is the duty of larger organisations to take the lead and provide support, guidance and partnership to smaller organisations that don't have the resources to tackle what is a spiralling pandemic across all industries.

In 2019, we first worked with our supply chain to understand the drivers of wellbeing. As a large collaborative project, we were able to identify collective issues, share knowledge, and provide support in addressing more local challenges.

More than 4,000 people took part in the survey — the largest wellbeing data-set collected in the construction industry — giving us the most compelling argument for change and a detailed plan of action.

It includes tackling the key triggers to poor mental health head on, by getting people to open up and feel that it is completely normal and acceptable to talk about issues like financial worries, family troubles, addictions and loneliness.

Collaboration is the answer in more ways than one. The number one action every organisation needs to take is to work with employees to understand the triggers to poor mental health for different groups and develop bespoke solutions. Creating an environment where people can be themselves at work and speak out, and where our workplaces, practices and behaviours mitigate psychological risk, is the key.

Mark Reynolds is group chair and chief executive of Mace

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Pictures of health across the country

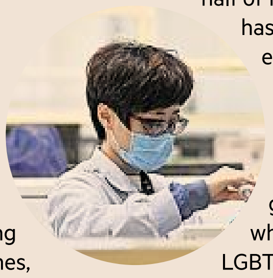
Britain's Healthiest Workplace, run by Vitality in partnership with Aon, Rand Europe, the University of Cambridge and the Financial Times, is designed to track the health and productivity of employees and identify the best employers in the private and public sectors.

After a two-year pause during the pandemic, data collection reopened in 2022 and has drawn on the responses of more than 8,500 employees from 251 organisations. Employers answer questions on their leadership and culture, and the provision and use of workplace wellness interventions, facilities and services. Employees submit answers on productivity, job satisfaction and risk factors such as smoking.

The data provide a way to track the health of the British workforce overall and identify recent trends. They also make it possible to identify the healthiest workplaces, which this year have been segmented to produce three top performers in each of three categories split by employer size: small (20-249 staff); medium (up to 999); and large (more than 1,000).

This year's winners include some that have performed well consistently in recent years, but also new entrants. Their activities range from financial services and energy to consulting.

Stress-busting success



A healthy working environment is one where you can bring "your whole self to work", say staff at MI-GSO | PCUBED. The global project management consultancy, a winner in the Vitality awards, runs initiatives to promote workplace wellness, including mentoring schemes, book clubs, and physical challenges — such as half marathons and the five peaks challenge.

"We're conscious that we're not pilots or air traffic controllers or doctors, but we work in quite a high-intensity career and a lot is expected in terms of delivery — for our clients, in our business, as well as things like . . . travel and potentially being away from home," says Laura Wilson, a consultant at the company. "We're aware it is quite a stressful career and we've [brought in] improvements based on that."

The company's flagship wellbeing initiative is what it calls "communities of practice", where employees come together monthly to discuss or launch new wellness measures. About half of the business has undergone external mental health first aid training. The company also runs "affinity groups" in which female, LGBT+ and disabled staff can talk, and assigns an internal coach to each new staff member.

"It's not one-size-fits-all," says Julia Bellak, human resources manager. "We need to be sensitive to the fact that individuals' wellbeing doesn't always follow trends."

Like other global businesses, the company is adjusting to the new norms of hybrid work, which, says Wilson, have made for a better work-life balance. She says the days when staff would leave on a Monday to work away from home and return on a Friday have "largely disappeared".
Abby Wallace

Britain's Healthiest Workplace
Award winners

Small organisations (20-249 staff)
1st OpenCredo
2nd Blue Motor Finance
3rd Phoenix Natural Gas

Mid-sized organisations (250-999 staff)
1st Novo Nordisk
2nd Program Planning Professionals (trading as MI-GSO | PCUBED)
3rd CLS Group

Large organisations (1000+ staff)
1st Nomura
2nd Arqiva
3rd Derbyshire Community Health Services NHS Trust

Making wellbeing a priority

Derbyshire Community Health Services NHS trust has performed well in healthiest workplace awards despite the funding challenges of operating in the public sector.

Unlike private companies, an NHS organisation is limited in what it can offer staff, because of funding constraints, but the trust has "made staff wellbeing a key priority", says Deborah Creaser, its wellbeing lead.

"One of the challenges of being part of the NHS is that, in comparison to independent and private businesses, we don't have a vast pocket of money to spend," she adds. "However, we have the expertise of our clinical colleagues. It's about tailoring it for the people and needs of our workforce."

The trust's wellbeing team organises 'Schwartz Rounds', in which staff discuss experiences at work and how they affected them emotionally. The trust also has a partnership with a counselling service, and has an employee assistance programme for issues ranging from bereavement to reproductive health.

Creaser emphasises the importance of anticipating what might lie ahead for employees. "Very early on in 2022, our human resources directors and board and executive staff raised the implications of the cost of living crisis — way before it was on everyday media," she says.

"We're offering a hardship fund for staff, for people who are really suffering, which is up to £500 per staff member." The trust is also reimbursing the cost of Blue Light Cards, which offer discounts at high street businesses.

Promoting staff wellbeing is crucial for providing NHS services, says Creaser. "Everything is impacted . . . if we can't retain staff or if they're unwell, then we can't run services." *Zesha Saleem*

Fair treatment for staff out of sight but not out of mind

Software development consultancy OpenCredo tries to provide consistent working hours and terms for staff deployed at clients' offices.

"Whenever we engage with a client, we find out what their policies are, because we may need to align with them," explains the company's chief executive, Nicki Watt. "Sometimes, if there's no alignment, we may not work with them."

Working hours and expectations are agreed between OpenCredo and its clients in advance, with staff involved in discussions around terms and conditions.

OpenCredo offers a wellbeing package comprising common tech company fare — free snacks and massages, as well as private health insurance — while also promising to give staff opportunities to engage meaningfully with clients, rather than moving frequently between projects.

Operations head Donna Burgess says OpenCredo seeks to promote diversity by providing mentoring, training and frequent pay reviews, so staff gain skills in a company that demands "excellence over mediocrity".

This year, the company underwent a "fair treatment audit" — pooling pay data gathered from open sources and employee surveys, and using this information to address discrepancies in a few cases.

While women, on average, earn six percentage points less than men at the company, Burgess says there is no gender pay gap when adjusting for types of role and market rates.

Watt adds that half of the company's board and two-thirds of its leadership team are female, and that a diverse team is attractive for new recruits, who see themselves represented at the highest levels of the organisation. *Rafe Uddin*

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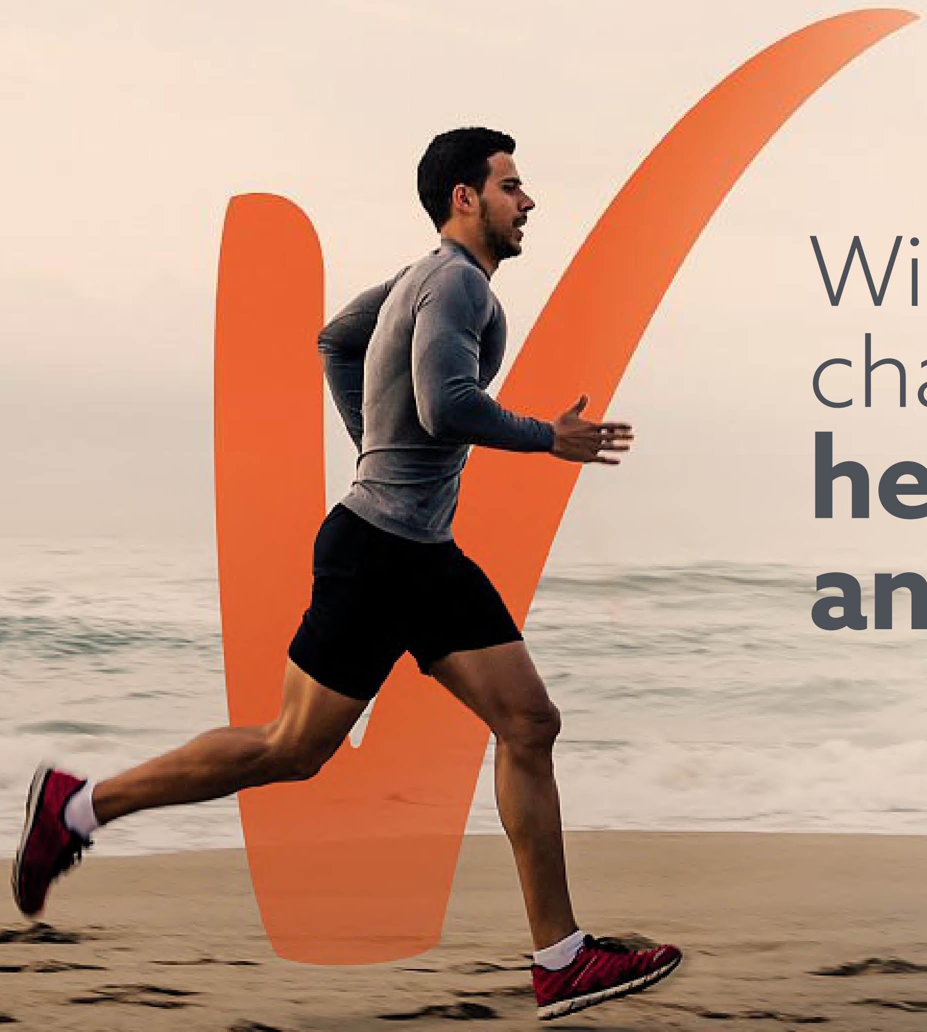

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Rise in long-term sick brings headache for UK economy

Labour force

Lack of support to get people back to work is putting the brakes on growth. By *Delphine Strauss*

A shrinking workforce: over the past three years, 630,000 more people of working age have become economically inactive Tolga Akmen/EPA-EFE/Shutterstock

Bank of England officials do not usually pore over the details of NHS waiting lists. But, in recent months, the health of the UK workforce has become an urgent question for monetary policymakers.

Britain avoided big job losses at the height of the pandemic but, since Covid-19 lockdowns lifted, it has seen an exodus of older workers from the labour force. The number of people of working age who are economically inactive — neither working nor looking for a job — has risen by more than 630,000 since 2019. And, in contrast with other countries, there has been no sign of them returning — even as inflation puts new strains on household finances.

On current trends, the UK will soon be the only country in the OECD where the workforce remains smaller than it was before the pandemic. At present, it is behind only Latvia and Switzerland.

However, ill health does not seem to be the main driver of this wave of early retirement, according to a data analysis by think-tank the Institute for Fiscal Studies. Many older workers said they wanted a change in lifestyle and could afford to retire, while others felt they were forced out by ageist recruitment practices or an alienating workplace culture.

But growing numbers of people who were already out of work at the start of the pandemic say health conditions have prevented them returning. The latest official data show a record 2.5mn working-age people are now inactive because of long-term sickness, up from 2mn in spring 2019.

"People are choosing to stop working or looking for work . . . the after-effects of the pandemic on health are probably a key driver," said Huw Pill, the BoE's chief economist, last month — speculating that long Covid, lengthening NHS waiting lists, a rise in mental health issues and the growing need to care for family members at home "have all weighed on labour force participation".

While worsening health among the UK population is an emergency in its own right, with at least 5.5mn people in England now waiting for hospital treatment, it is also has serious repercussions for the economy.

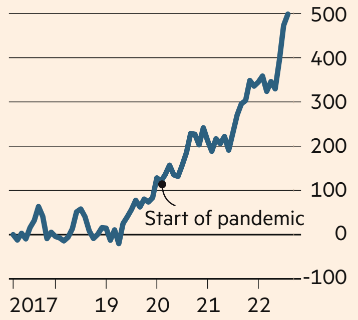
Jonathan Haskel, an external member of the central bank's monetary policy committee, believes official data understate the extent of health-related inactivity, because health is often an underlying factor when people decide to retire early. He argues that the crisis in the NHS is exacerbating a shortage of workers, fuelling wage growth and threatening to create "inflationary pressure in the UK for longer than other countries".

If this is true, the BoE may feel the need to raise interest rates further and keep them high for longer than it otherwise would — deepening the recession the UK already faces as a result of the energy price shock.

A smaller workforce will also be a lasting drag on economic growth. In the decade before the pandemic, a boom in employment was the main reason the economy kept growing, helping to offset the UK's persistently poor performance on business investment and productivity.

Down and out

Cumulative change in number of 16-64 year olds who are economically inactive due to long-term sickness ('000)



Seasonally adjusted
Source: Office for National Statistics

The Office for Budget Responsibility, the country's fiscal watchdog, has now slashed its forecasts for UK growth over the medium term, noting that "several adverse developments" can be "traced back to health-related issues". The OBR has also flagged one direct consequence for public finances, saying it expects spending on disability and health-related benefits to be £7.5bn higher than it predicted at the time of its previous forecast in March, with the number of people claiming these benefits up by more than 1mn.

Even if there is no immediate solution to the crisis in the NHS, labour market experts say much of this cost to the economy could be avoided if both government and employers did more to help people with health conditions remain in their jobs — or return to new ones.

Surveys seeking to pinpoint the types of medical problems keeping people out of work show no rise in progressive illnesses such as cancer, and the Office for National Statistics says it is unlikely long Covid — despite its debilitating effects — accounts for much of the increase in inactivity.

"We were expecting a tsunami of long Covid, but that has not materialised," says Nick Pahl, chief executive of the UK's Society of Occupational Medicine. He notes that there has been a significant increase in back and neck problems — potentially the result of remote office workers hunching over laptops on their kitchen tables — as well as a rise in mental health problems.

> 'We were expecting a tsunami of long Covid, but that has not materialised'

But the main issue, he says, is that people who have dropped out of work with a health condition are no longer returning at the rate they used to — whether that is because they are on an NHS waiting list or because public services routinely fail to offer the kind of support people need to return to work swiftly. "Every day someone is off sick, there is less chance of them returning," Pahl says.

"Your health does deteriorate the longer you are out of work," explains Tony Wilson, director of the Institute for Employment Studies, a consultancy. He believes that people who stopped working for various reasons around the start of the pandemic have since fallen sick and found themselves stranded.

There is "vanishingly little" employment support in the UK for those with health conditions, he says, adding that people are usually only referred for support once they are receiving treatment — meaning that bottlenecks in the NHS are preventing them getting through.

Meanwhile, decent employers might adapt a job for an existing employee whose health has worsened, Wilson says, although "it's very hard if you're applying for a job, especially as most are not advertised as flexible".

"Employers have a lot of responsibility here," he adds. "It's in their gift to make work more flexible."

Decent pay gives us healthy, productive workers

OPINION

Katherine Chapman

The link between poverty and health inequalities was established more than 10 years ago by the Marmot Review. The evidence was clear that low incomes are associated with worse outcomes in virtually every aspect of health and wellbeing — including life expectancy.

Whether through low pay or insecure hours, people struggle to afford the basics for good health — like decent food and a warm home — and face the constant stress of working multiple jobs, while worrying about paying their bills. This all takes its toll on mental health and family and community life.

This has been thrown into sharp relief in recent months, with inflation far outstripping wages and hitting those on low incomes hardest. Recent Living Wage Foundation polling of full-time workers earning less than the real living wage — the voluntary wage calculated independently to allow for a basic, but decent, standard of living, as championed by the foundation — revealed shocking levels of hardship.

More than half (56 per cent) of low-paid workers have turned to food banks to get by, 42 per cent are regularly skipping meals, and 69 per cent report that the pay they receive negatively affects both their levels of anxiety and their overall quality of life.

Children who live in poverty also have worse health outcomes. They are more likely to have been born prematurely and underweight, to suffer chronic diseases such as asthma, and to have greater mortality rates in early and later life. Child poverty is on the rise — and 75 per cent of children who are growing up in poverty have at least one working parent.

As a society, this is not something we should accept, and it was one of the key drivers behind the campaign for employers to pay a living wage, which began in east London more than 20 years ago. There are now nearly 12,000 accredited living wage employers across the UK, including more than half of FTSE 100 companies, as well as household names such as Nationwide, Ikea and Everton Football Club, plus thousands of small businesses.

By guaranteeing a wage that covers the cost of living, including to contractors such as cleaners and security guards, they are providing crucial security and stability for people most at risk of being trapped in working poverty.

Together, living wage employers have put £2bn back into the pockets of workers who need it most since the movement began. And a growing number of businesses are signing up to provide living hours — minimum guaranteed hours (16 hours a week, unless the worker requests otherwise) and at least four weeks' notice of shifts.

The business case for better pay and secure hours is compelling: 90 per cent of living wage employers report benefits such as improved recruitment, retention, employee relations, and reputational enhancement. These can be directly linked to employee health and wellbeing — which is, rightly,

Stacking up: Ikea is one of thousands of businesses that pay the living wage — Bloomberg

high on the agenda of many organisations.

Existing levels of ill health are already costly for businesses. The UK economy lost an estimated 149.3mn working days last year because of sickness, with research by the Mental Health Foundation and the London School of Economics suggesting that mental health problems cost at least £118bn over the same period through absence from work and lower productivity.

But employers can also quantify the benefits of the living wage. Chris Smallwood, managing director of living wage-accredited Anchor Removals, says the number of working days his business lost to staff off sick fell from 131 to just 23 within a year of living wage accreditation, dropping again to 11 in the year before the pandemic. Attributing that change to the positive impact of higher wages on the health and wellbeing of his staff, Smallwood estimates living wage accreditation has saved his company £18,000 a year.

And it is not just individual businesses that stand to benefit. New research published by the Living Wage Foundation and the Smith Institute has found that lifting just a quarter of low-paid workers on to the living wage could boost the UK economy by £1.7bn — in part because of the increased productivity associated with health and wellbeing that decent wages promote.

> 75 per cent of children who are in poverty have at least one working parent

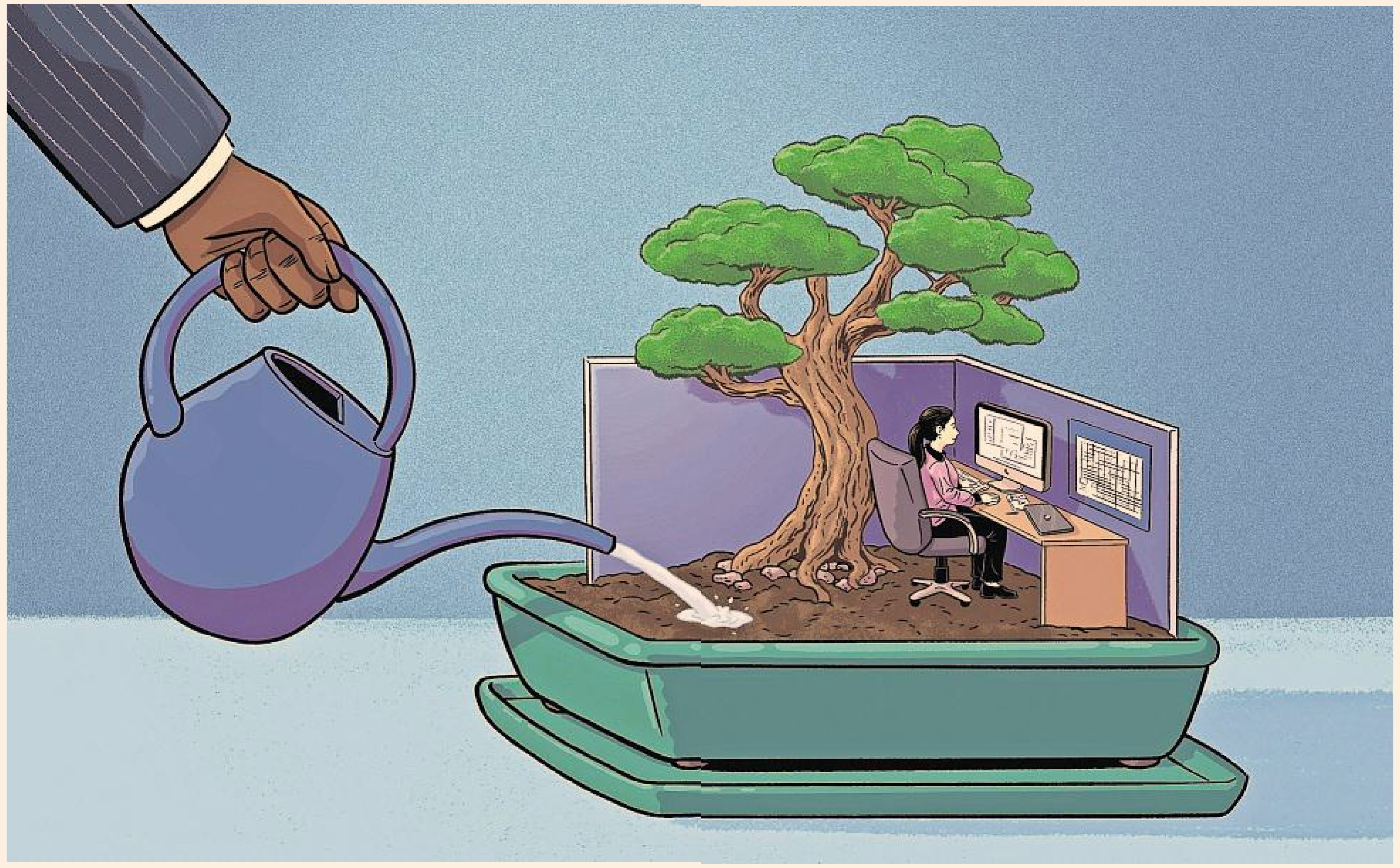
Financial stability and pay are not simply about pounds and pence — they have a huge impact on the mental and physical health of workers, their life chances, and those of their children. Decent pay underpins health and wellbeing in the workplace and is increasingly recognised as a key factor in the social sustainability of businesses — both internally and externally.

Times are tough for all of us. But, as living costs rise and millions more households are predicted to face poverty and deteriorating health, taking the step to become a living wage employer has never been more important.

Katherine Chapman is director of the Living Wage Foundation

Why a rich mix of measures is needed to nurture wellbeing

Interventions Culture and engagement are key to healthier staff, writes *Janina Conboye*



Many companies were tackling health and wellbeing at work long before the pandemic. But, amid the global health crisis, it shot up the corporate agenda. Implementing effective strategies has remained challenging for businesses, though — especially if they have thousands of employees.

So, what actually works? The answer: it's complicated. Employees in different jobs in different organisations benefit from different measures. Some interventions can be backed up by evidence, while the effectiveness of others is less clear.

What Works Wellbeing was set up as a community interest company in 2014, to gather and share evidence of workplace interventions, with the aim of improving decision making. However, after reviewing the evidence of the past eight years, executive director Nancy Hey says there are still big gaps. "I am really surprised that, given how much effort goes into [wellbeing at work] by so many big organisations, how little we know," she says.

What has become clear to WWW is that there are "five drivers" of wellbeing at work: physical and mental health; relationships with colleagues and managers; security, which includes financial, physical and emotional safety; environment, such as culture and work patterns; and purpose, or goals.

A job can be made more worthwhile through security, social connections, the ability to use and develop skills, clear responsibilities, and opportunities to have a say in a supportive environment, WWW has found. One way of providing some of this is via training to build personal resources and skills — for example, by offering staff the space to think about and discuss what is important or problematic in their job, and helping them to develop the ability to take on more responsibility.

Similarly, effective team working also helps wellbeing: shared activities such as workshops and internal mentoring programmes can improve workplace atmosphere and social connections.

But, whether a particular measure — for mental, physical or even financial health — will work in any given organisation relies on more than the intervention itself. Company culture, a comprehensive strategy and employee engagement are essential to determining success.

"I'd love to come to you and say, 'If everyone does this, job done and everyone's happy'," says Farimah Darbyshire, head of programmes and external relations at the City Mental Health Alliance — a non-profit that brings together business leaders, and human resources, wellbeing and diversity and inclusion professionals. But "an intervention dropped into one company could fly, then absolutely fall flat on its face in the next company", she explains.

Darbyshire points out that employees designated as "mental health first aiders" and wellbeing champions can work very well in some organisations, and for several reasons. "It gives people someone to talk to, they can signpost to support, they are creating a more open atmosphere."

However, the initiative has to be taken seriously and business leaders need to signal that it is important to them. What you cannot do, Darbyshire says, "is train 30 people and be, like, 'We've done workplace mental health'. You haven't — if you do it badly, people lose faith in it."

Line managers are critical, here. If organisations say they believe in mental health and wellbeing but retain toxic managers — such as those who bully, micromanage or otherwise behave in ways that erode morale — "that is hugely detrimental", says Darbyshire. "You've got to live what you're saying."

Anna Purchas, former UK head of people and now a senior partner at accountancy firm KPMG, says role models are particularly powerful. "You do need to have had some of your senior leaders be comfortable talking about their mental health and how they've not always thrived," she says. KPMG has four parts to its board-approved wellbeing strategy: preventive health; mental wellbeing; family considerations; and financial wellbeing. It has found that those linked to managing family have worked particularly well.

> 'An intervention dropped into one company could fly, then absolutely fall flat on its face in the next'

A nimble strategy that can shift based on employee feedback is effective, says technology group Cisco, which, along with KPMG and many others, runs regular surveys on what staff want and need. Cisco includes questions to identify specific groups of employees, such as those with caring responsibilities. Jen Scherler-Gormley, head of HR for the UK and Ireland at Cisco, says carers include not just those looking after family members but employees with responsibilities in the community, for example. "I care for a neighbour and her daughter. People's definition of family, or who you care, for is a lot broader," she adds.

Six months ago, Cisco launched a service to provide a co-ordinator to help staff manage care for someone with complex needs. Each case has saved an average of 100 hours per employee. "That's 100 hours outside of work, where they're burning the candle at both ends and [feeling] additional stress . . . impacting their work," says Scherler-Gormley.

In addition to companies' own research and that of organisations such as WWW, other employers continue to make significant efforts to fill in the evidence "gaps". Even so, as dark economic clouds loom, measuring the data and responding quickly to what is happening on the ground will be challenging, says Katie Tryon, behaviour change expert and director of health strategy at health insurer Vitality, a private medical insurer.

"We're moving into a different economic situation," she adds. "The really big question is: can we maintain that really critical focus that came during and post the pandemic . . . retaining the right people and helping to foster [them]?"

Employers urged to do more to ease cost of living stresses

Cost of living

Financial literacy schemes do not address hardship for lowest paid, research shows. By *Hannah Kuchler*

Employees struggling with the soaring cost of living are at higher risk of suffering mental health problems, research has found — prompting calls for employers to offer more financial literacy initiatives, or direct support.

Two out of three UK employees say money worries affect their mental health, while three out of five say this distress is affecting their performance at work, according to a survey by workplace savings provider Cushon.

As a result, the cost of living crisis is a "double whammy" for productivity, argues Steve Watson, Cushon's head of proposition. "We used to think about financial wellbeing and wellbeing separately, but now we have to see it more holistically."

UK consumer price inflation reached a 41-year high of 11.1 per cent last month. This is hitting people on lower incomes particularly hard because the inflation is being driven by rising energy and food prices.

And the problem may be more widespread than employers think.

More than half of UK adults report feeling anxious about rising prices, while one in five feels unable to cope, according to research by the Money and Mental Health Policy Institute. Conor Darcy, head of research and policy at the think-tank, says he has heard of people who are not showering or cooking to save on energy costs. "We still hear lots of people who are just about getting by; they are using their savings, but they may be turning to a little bit of credit now," he adds.

Overall, one in seven people in the UK now experiences mental health problems at work, according to the Mental Health Foundation charity.

In the US, the relationship between financial worries and health can be even more direct. It is like "chicken and egg", according to Heather Odle-Dusseau, chair of the management department at Gettysburg College, who has studied how financial distress affects workers. She says healthcare bills are the largest source of financial hardship which, in turn, causes distress and mental and physical health problems.

But, in spite of the clear toll on their staff, employers can be reluctant to intervene, fearing they will encounter demands for higher pay.

Christian van Stolk, executive vice-president at research institute Rand Europe, which has studied the impact of financial interventions such as money management lessons and pay advances, says these are not a substitute for poor pay. "You can't just say our workers need to be more financially literate if they are on very low incomes, supplemented perhaps by benefits," he argues.

US healthcare costs cause both financial and consequent health problems, says Heather Odle-Dusseau

Other companies are underestimating the problem — for example, by presuming higher earners will have better financial literacy skills.

A Rand Europe study, commissioned by the Wellcome Trust, analysed data from two big workplace surveys in the UK and Asia. In general, it identified low participation rates in financial wellbeing initiatives. But it found the mental health of those who did engage with programmes improved. This was especially the case for young people, those on lower incomes and, in the UK, staff from ethnic minority backgrounds.

Other studies have shown that financial counselling and coaching can increase employee satisfaction and reduce requests for workplace loans. Darcy says that, for those already suffering from mental health problems, employers can help "signpost" resources. "When people are really struggling mentally, just finding that effort to . . . figure out which is the right place to go and get information — and who can you trust — can be really tough," he observes.

Employers can step in themselves. A 2010 study showed that pay advances reduced bill defaults. Watson says some employers also considered allowing people to divert some of their pension to savings to provide an emergency fund or house deposit, or encouraged automated savings by offering bonuses for those who save for several months.

Van Stolk says the mental health crisis has become so serious that employers are investing just to stem the tide of problems. "Most large employers I'm talking to at the moment are looking at how to plateau mental health — so not even improving mental health, but just arresting decline in mental health," he notes.

However, he adds that there is still a stark divide between the low paid, who are rarely offered interventions, and employees on higher incomes, as well as between staff at large and small companies. "Most employers are becoming much more aware of these things and are intervening," he says. "But I would put the spotlight on smaller employers, who often have very limited means."

US companies try to avert burnout and keep staff

Retention

Flexibility needed as 'great resignation' compounds rising levels of exhaustion, writes *Sarah Murray*

Casting her eye over data on post-pandemic resignations in the US, Natalie Baumgartner sees many struggling companies. "Organisations are in tremendous pain," says the chief workforce scientist at Achievers, an employee engagement software provider. "What they are seeing in [staff] turnover terms is exorbitantly costly."

Some 4.5mn people quit their jobs in September, according to the US Labor Department, leaving 10.7mn unfilled posts — the highest level in two decades. And, while better pay prompts some to switch jobs, prominent among the forces driving this so-called great resignation is the overwhelming stress that leaves workers physically and emotionally exhausted: burnout.

Some research suggests burnout may even rank higher than pay on the list of reasons to change job. And a 2021 study of 200 executives by the Society for Human Resource Management found that, while 53 per cent of respondents said "better compensation" had prompted their job search, 43 per cent cited "better work-life balance".

Other SHRM research last year concluded that 50 per cent of Americans felt burnt out from work in the previous two weeks. In 57 per cent of cases, respondents said they were mentally and physically exhausted and 51 per cent felt emotionally drained. Workplace chat app Slack found that, in January and February, levels of work-related stress and anxiety among knowledge workers were at their highest since its survey started in 2020.

Growing job vacancies make things even worse for those who remain. Half of those polled by SHRM said they had been required to take on more work and responsibilities.

All this means employers need to take action, says Baumgartner. "People are the fuel for companies, so we've got to figure this out fast."

First, says workplace futurist Kerry Hannon, companies need to increase work-time flexibility. "It's something people value more than a pay cheque or even a bump up in pay," she says. "You can offer free lunch and all kinds of great things, but it's this lure of flexibility that really keeps people on the job."

> 'You can offer free lunch and all kinds of things, but the lure of flexibility keeps people on the job'

Flexibility can mean periods away from work. Citi, a US bank, last year started offering a 12-week sabbatical paid at 25 per cent of base salary to employees in North America with five years' service, and there are no restrictions on how they spend the time off.

The pandemic has also highlighted the need for more caregiving support from employers — and not just for staff with young children but also those with sick or elderly relatives.

These programmes come at a cost, whether in hiring mental health professionals or giving extra time off, but can also produce benefits in the form of higher retention and productivity or lower absenteeism.

"Employers, today, are running spreadsheets to determine if the cost of providing these services reduces [staff] turnover, helps workers be more productive and aids mental wellbeing," says Jim Link, chief human resources officer at SHRM. "Because those have cost savings, or cost avoidance, components."

Polling company Gallup says the cost of replacing an employee can range from half to two times their annual salary. That includes recruitment and training expenses as well as costs relating to a position being vacant.

But not all measures to address burnout require financial investment. Last year, Citi introduced "Zoom-free Fridays" to ease the stress frequent video calls place on staff.

Another powerful retention tool is simply recognising a job well done or performed in tough circumstances. "Recognition is hugely important," says Joanna Daly, IBM's vice-president of HR. One way the tech company is fostering this is via a scheme where employees give each other points, which can be exchanged for rewards and gift cards.

Most important for employers, says Baumgartner, is something relatively basic: encouraging managers and colleagues to look out for each other's mental wellbeing.

At IBM, a "mental health ally" programme provides training to recognise signs of stress or trauma among colleagues, to approach them in the right way and with empathy, and to access support.

But research suggests other companies are not doing this. Workforce analytics group Visier found, in a survey of 1,000 employees, that more than a third felt uncomfortable talking to their supervisor about burnout.

Listening and paying attention to the answers is key because what employees want can differ, whether it is a half-day on Fridays or a different form of professional development. "We have to ask — do not assume," says Baumgartner.

Jen Fisher, consultancy Deloitte's US chief wellbeing officer, agrees: "The best companies . . . are not following a formula for wellness and wellbeing. They are listening, learning and customising."

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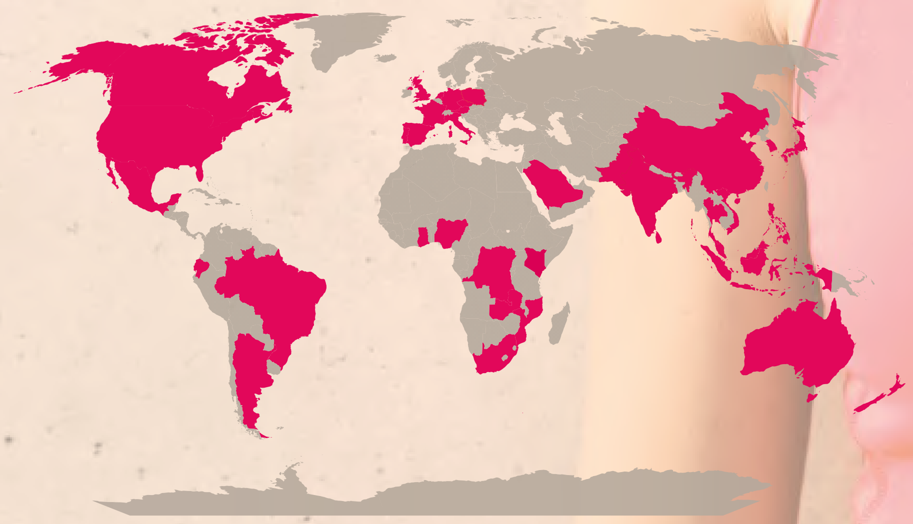

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